A Survey of the Needs

of the

Michigan State Normal Schools

Prepared for the

Michigan State Board of Education

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MICHIGAN STATE NORMAL SCHOOLS

by

Arthur B. Moehlman
Director of Statistics and Reference
Detroit Public Schools

Prepared at the request of the
STATE BOARD OF EDUCATION

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Foreword

The State Board of Education has attempted to develop and set forth, in this volume, a scientifically constructed program of the needs of Michigan state teacher training institutions for a period of years in the belief that such a program, realized as the need arises, will be far more economical to the state and will result in schools better equipped to perform the very important task of training the teachers of the children of this and succeeding generations. This survey has been based upon a year and one-half of a careful study of actual conditions.

A. M. Freeland, *President*
Frank Cody, *Vice President*
T. E. Johnson, *Secretary*
Fred Jeffers

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Acknowledgments

This survey of the state normal schools was undertaken on July 1, 1921 at the request of the State Board of Education. There were no funds available so the methods had to be adapted to the means. This resulted in a survey conducted largely by the questionnaire method and the findings have been based upon the data submitted by the presidents of the several institutions from their own records. The records in some instances were not so complete in detail as desired and the information was difficult to secure. The completion of the survey was made possible only through the splendid co-operation of Presidents McKenny, Waldo, Warriner, and Kaye, their registrars, Messrs. Steimle, Hoejke, Barnes, Miss Bowron, and their faculties.

The interest taken and help given by S. A. Courtis, Homer Anderson, and Arthur L. Weeks of the Detroit Public Schools and by Dean A. S. Whitney of the School of Education, University of Michigan, has been of great help in the different divisions of this report.

The graphic work was done by H. J. Kaufmann and the detailed tabulations were made by C. S. Baxter and Miss Bernice Roe.

Method

The method employed in this study was (1) personal inspection and (2) questionnaire. Two trips of inspection were made. The first of these, before starting the survey, consisted of a general inspection of the physical plant and conversations with the president or registrar concerning the general needs of the institution. Questionnaires were then sent out, together with detailed instructions. The information received was checked against annual reports and the reports of the State Board of Education for verification. It was then tabulated and analyzed. A second visit of inspection was made after the survey had been completed.

Part I

Summary of Findings and Recommendations

Present Conditions

Expenditures for maintenance purposes at the four state normal schools have increased from $389,264 in 1910–11 to $1,062,656 in 1920-1921, an increase of $673,392 or 173% in the last decade.[1]

At the beginning of this period the normal schools were serving a total of 5,938 students in regular and summer sessions. There were 9,941 at these four schools during the year beginning July 1, 1921, which is an increase of 4,003 or 67%.[2]

In 1910 the four teacher training agencies of the state[3] produced 1,060 teachers. In 1920–21 they produced 1,730 teachers or 730, 63.2%, more than at the beginning of the decade.

There has been a teacher shortage in Michigan since 1917–18. During 1917–18 and 1918–19 a number of schools were forced to close because of teacher scarcity. Emergency measures were taken and these places filled either by teachers from other states or by the limited certification of people with less than normal training. This teacher shortage while nationally no longer acute is still a grave problem. At present the total shortage for the country as a whole, including teachers below standard, is approximately 100,000.[4]

The 1921 legislature enacted a very comprehensive educational program.[5] For this it deserves the thanks of the state. Among the laws is one becoming effective in 1925, which requires at least one year of professional training before any person can qualify as a teacher.[6] This is in line with the action of other states in providing for better trained teachers. This means that many who heretofore have qualified on the basis of short term institutes must in the future spend at least a year at the normal training schools.

The 1920–21 production of teachers by the University of Michigan, the four normal schools, the Detroit Teachers College and the Michigan Agricultural College was 1,730.[7]

1—See Part II, Chapter XII.
2—See Part II, Chapter V.
3—Includes University of Michigan, the State Normal Schools, Detroit Teachers College and Michigan Agricultural College.
4—N. E. A. Bulletin, February 1920.
5—For summary see Detroit Educational Bulletin, Vol. 4, No. 10.
6—See Public Acts of 1921, No. 186 pp. 368–372.
7—See Part III Chapter XIX.

This production must be increased by 81% to meet the demand if the public schools are to be supplied by 1930. The 1920–21 product of the four normal schools totaled 1,252. These schools will be required to graduate 2,255 teachers, the 1930 requirements. This will be 80.1% more than in 1920–21.

The 1920–21 registration at the four normal schools was 3,175.[1] The probable 1930 registration will be 7,000,[2] an increase of 3,825 or 124%.[3]

By 1930 the school population[4] of the state of Michigan will be approximately 1,363,468. The average per cent of the school population attending school since 1870 is 72 and it is therefore reasonable to assume conservatively that 981,696 children will be attending school in 1930. The better operation of the compulsory attendance law, the application of the continuation law, and the changing character of the schools themselves, will probably tend to increase this ratio.

In general, 88% or 863,892 of these children will be attending public schools.[5]

The Problem

The yearly demand for new teachers in Michigan in 1930 will be 3,132. This is 1,003 or 80.1% more than the total 1920–21 product. This means that the present registration in teacher training centers must double in nine years in order that 3,132 teachers may be produced in 1930.

The doubling in size of the state normal schools by 1930 presupposes that during this time expenditures for these institutions will also double both for maintenance and for buildings or capital outlay. If this is true it means that the state would be required to expend at an annual increasing rate for maintenance up to $12,500,000 in 1930, and approximately $10,000,000 for buildings and land at present prices.

In view of this large probable expenditure it is necessary to analyze present conditions carefully in order that a fact-built program for the teacher training institutions may be developed for this decade.

The Future Program

Expenditures for teacher training must continue to increase during the remainder of the decade because the demand for teachers is 80% greater than the supply of the present institutions.[5]

1—See Part III Chapter XIX.
2—See Part III Chapter XIX.
3—Difference between increase in registration and in graduates is due to mortality and gradua development into four year college. This expected registration will be 77% greater than the current (Fall term 1921) registration of 3945.
4—School census includes all children between ages of 5 and 20 years.
5—See Part III Chapter XVIII.

Cause of Expenditure Increase

This difference between the growth of the normal institutions and the maintenance expenditure increase is due (1) to increased costs generally and (2) to salary increases specifically. Since practically 70% of the maintenance budget is devoted to faculty salaries, it is apparent that any change in this item will immediately raise the general level of expenditures.[1]

Salary increases have been made in an attempt to keep pace with the cost of living, but without much thought of setting up a scale of proper rewards for the high character of professional service required.[2] During this last period the cost of living for the country as a whole, using 1914 as a base, rose to 104% in July 1920 and then began to decline until it reached approximately 60% in July 1921.

The median salary was increased from $1,429 to $2,347 or 64.3%.

While the cost of living rose 104%, the salaries of normal instructors, very meagre as early as 1913–14, were increased approximately 60%, or only little better than half the living cost increase, and considerably less than the salary increases given high school teachers in the larger cities.

It is then apparent that the increase in maintenance expenditures for the normal training schools during the last decade was not only justified but is actually smaller than it would have been if the value of the teachers' service had been fully recognized by the state.

The Demand for Teachers

The demand for teachers since 1911–12 has increased faster in proportion than pupils. This is due to better organization and better adjustment of the pupil-teacher ratio. Assuming a 25 pupil-teacher ratio, the total number of teachers required by the public schools of Michigan in 1930 would be approximately 36,706, or 95% more than than in 1911–12.

Teachers in service grow old and retire of their own free will or die. Many of the younger ones marry and many of the men are forced to seek more lucrative fields. Approximately six per cent of the teachers in service must be replaced annually. The total number of new teachers required by the public schools of Michigan in 1930 will be approximately 3,132. This does not take into consideration the probable demand for non-public school teachers who must qualify under the new law.[3]

1—See page 5.
2—See Part II Chapter XIII.
3—See Public Acts of 1921, No. 186 pp. 368–372.

Maintenance Requirements

The total maintenance requirements in 1930 will be approximately $2,500,000 annually[1] or $1,437,344, 135%, more than in 1920-21. This difference in increase of expenditure over the expected increase in regular registration is due to the expected increase in the summer session. The amount required for maintenance includes reasonable and necessary salary adjustments which will not appear as increased costs. Increase in class size and more evenly adjusted teacher loads will result in the need for fewer additions to the faculty than if operation continued as at present.[2]

The recommended salary increases will secure for the state the pick of highly trained and able college teachers without proportionately increasing the number of such teachers.

Building Requirements

The great increase in registration necessary to meet the 1930 teacher demand brings with it a number of important social problems that will require adjustment in terms of financial outlay. The most important of these is the necessity of providing dormitories to properly house the women students who form the greater portion of the student bodies.[3] The majority of these students come from families in very moderate circumstances and are forced to earn their own way partially or wholly. They are now required to live in whatever houses the residents are capable of providing. The median cost of room, board and other expenses for the college year is $512.00, or slightly more than $50.00 monthly.[4] The occupational opportunities are not numerous in cities where these schools are located and the amount of time required to partially or wholly work one's way is so great that it must react unfavorably towards school work. The state should provide means whereby the majority of the students could be given food and room at actual cost, reduce the students' burdens and so stimulate attendance.

It is also desirable from a social and professional standpoint that the future teachers of the children live under conditions that reproduce as closely as possible a wholesome home influence. The development of a wholesome social life among the students will be of incalculable value to the state in the future.

A dormitory program was initiated by the 1921 legislature. The requirements of this program by 1930 at all four schools are for 23 dormitories each housing 170 girls, costing approximately $3,875,000.[3]

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[1]—See Part III Chapter XXIX.
[2]—See Part II Chapter IX.
[3]—See Part III Chapter XXIII.
[4]—Part II Chapter XIV.

This program would provide for not more than 60% of the probable membership at any of the schools.

Necessary Changes in Present Plants

What other additions and changes must be made in the present college plants to meet the needs of this great growth? This question must be considered from the standpoint of the individual schools.

Michigan State Normal College

The 1930 requirements will be for 2,500 students. The present plant has a usable capacity of 4,500.[1] There are however several inadequacies that must be corrected.[2]

The portion of the main building, housing the high school, general classrooms and the library is a grave fire hazard and should be razed and replaced immediately. Its continued use is a menace to the lives of the students.

A library, a new recitation building, a manual arts building, and a combination intermediate high training school are required to replace these portions of the main building. A new heating plant is necessary to replace the present one which is obsolete, inadequate, and expensive to maintain. Towards the close of the decade the elementary training school should be replaced by a building adjusted to modern needs. The cost of these buildings, should not exceed $1,240,000.

This college has now available $574,000 for new buildings. By redesigning the proposed intermediate-high school it should be possible to build this for a sum not to exceed $340,000. The north wing can be replaced by an adequate library for an amount not to exceed $225,000. The request for a recitation building to replace the central portion of the main building should be included in the next budget. The current appropriation may therefore be considered as a credit against the proposed building program and will tend to reduce the necessary appropriations by that amount.

Western State Normal School

The 1930 requirements will be for 2,500 students. The present plant has a usable capacity of 2,200 but is poorly balanced in respect to laboratories and shops.[3]

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[1]See Part II Chapter VIII.
[2]See Part III Chapter XXII.
[3]See Part II Chapter VIII.

The needs[1] are for a new library, a recitation building, a second gymnasium for men, and an auditorium, followed later by an intermediate-high training school.

The approximate cost of these requirements will be $1,210,000.

This school now possesses an appropriation of $480,000 for buildings. It is recommended that this be used to erect the new library and a new gymnasium for men. The present appropriation of $480,000 can be applied as a credit against the proposed building program.

Central Michigan Normal School

The present plant has a usable capacity for approximately 2,000 students.[2] The requirements are for a 1,000 capacity.[1] The great need is for increased library space. This can be provided by adding to the present wing in which the library is housed. Other required changes are minor in character and the cost of all should not exceed $60,000.

Northern State Normal School

The present plant has a usable capacity of 1,000.[2] The requirements are for a 1,000 capacity.[1] Certain adjustments must be made within a few years to provide for laboratory needs, faculty rooms, etc. This can best be done by building a new elementary-high training school and remodeling the wing now occupied by the elementary school for use by the college. The total cost of these needs, including the remodeling of the present hermetically sealed ventilation system, should not exceed $300,000.

This school now has an appropriation of $275,000 which may be applied as a credit against the proposed program.

Land Requirements

The minimum land requirements for a normal school campus are 40 acres.[3] The desirable size ranges somewhere between 60 acres and 100 acres to allow for growth and development. It is desirable to secure this land before the development of the city makes the price prohibitive. Another advantage gained by early purchase of the entire plot is that it will permit the proper planning and development of buildings to produce a unified and inspirational ultimate

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[1]—See Part III Chapter XXII.
[2]—See Part II Chapter VIII.
[3]—See Part II Chapter VIII and Part III Chapter XX.

plant. These requirements and probable costs for the several schools in order of need are:

Western State	10 acres	$22,000[1]
Central Michigan	20 acres	10,000
Northern State	20 acres	10,000
Michigan State[1]	(lot corner Brower and Cross)	15,000
Total		$57,000
Credits		$22,000
Net land requirements		35,000

The summary of total requirements at the four normal schools is as follows:

Dormitories	$3,875,000
Changes and additions to college plants	2,810,000
Land	35,000
Gross Totals	$6,720,000
Credits (present appropriations)[2]	1,464,000
Net requirements	$5,256,000

RECOMMENDATIONS

The general needs of the state normal schools have been presented briefly in the preceding pages. Upon the basis of the data developed in Parts II and III of this survey it is desirable to present certain definite recommendations as a basis for the development of future policy.

1. A careful study of the present plants and the future needs of the state normal schools has resulted in the development of a building and land program covering a period of years. These recommendations are made on the basis of known facts together with an analysis of future needs. The total net cost of this program is set at $5,256,000. It must be understood that these estimates are based upon current prices.[3] Since building costs are fluctuating considerably, these estimates must be revised to correspond to prevailing prices at the time the appropriations are requested. This recommended program follows:

[1]—This land has been purchased and paid for since the Survey was made.
[2]—Michigan State now has an appropriation of $57,000 to round out the present campus.
[3]—Prevailing prices in Michigan during April and May, 1922.

RECOMMENDED BUILDING PROGRAM—STATE NORMAL SCHOOLS

Year	Michigan State	Western State	Central Michigan	Northern State	Total four normal schools
1922–23	Library $225,000 Inter-high training school 340,000	Library 225,000 Gymnasium 125,000 Remodel portions of Adm. bldg. connecting arch 15,000	Dormitory $135,000	Elementary-High 265,000 Adjustments 10,000	
	Total.....$565,000	$365,000	$135,000	$275,000	$1,350,000
1923–24	Recitation bldg. $200,000 Heating Pl. 85,000 Dormitory Equip. 170,000 HighSchool 35,000 Equip. libr 20,000	Recitation bldg. $225,000 Dormitory 170,000 Equip. libr. 20,000	Addition to present library and adjustments on College pl. 60,000 Dormitory 170,000	Dormitory $170,000 Equipment Elem.-high 25,000	
	Total.....$510,000	$415,000	$230,000	$195,000	$1,325,000
1924–25	Dormitory $170,000 Manual Arts bldg. 60,000	Dormitory $170,000 Auditorium 250,000 Equip. Auditorium 25,000	Dormitory $170,000	Dormitory $170,000	
	Total.....$230,000	$445,000	$170,000	$170,000	$1,015,000
1925–26	Dormitory $170,000 Elementary Train'g sch 250,000	Dormitory $170,000 Inter-high Train'g sch. 250,000 Heating plt. changes 50,000	Dormitory $170,000	Dormitory $170,000	
	Total.....$420,000	$470,000	$170,000	$170,000	$1,230,000
1926–27	Dormitory $170,000 Equip. Elem. Train'g sch. 25,000	Dormitory $170,000 Equip. Elem. Train'g sch. 25,000			
	Total.....$195,000	$195,000			$390,000
1927–28	2 Dormitories $340,000	2 Dormitories $340,000			
	Total.....$340,000	$340,000			$680,000
1928–29	2 Dormitories $340,000	2 Dormitories $340,000			
	Total.....$340,000	$340.000			$680,000
Gross Grand Total...$2,600,000		$2,570,000	$705,000	$810,000	$6,685,000
1921-22 appropriations that may be applied as credits..... 574,000		480,000	135,000	275,000	1,464,000
Net Grand Total Requiremens.....$2,02[illegible],000		$2,090,000	$570,000	$535,000	$5,221,000

Gross Grand Total	**$6,685,000**
Credits (current appropriations)	**1,464,000**
Net building requirements	**$5,221,000**
Land	**35,000**
Grand Total Net Requirements	**$5,256,000**

This building program will provide for all the physical needs of the Michigan State teachers training schools until at least 1935.

2. It will be possible to effect considerable economy in future building if advantage is taken of research studies already made in the use of school buildings in respect to size of classrooms, corridors, and laboratories and to this end it is recommended that plans for proposed buildings for which appropriations have already been made be revised in light of such findings and practices.[1]

3. The social problems at the state normals can be solved only through the development of a dormitory and commons system as recommended in the building program.[2]

4. The state normal schools can be operated more effectively through the adoption of the suggested organization of a teachers' college. It is recommended that this plan of organization be put into practice gradually.[3]

5. It is imperative that the state normal schools be developed to the point where their work is generally recognized as of college grade. It will probably take a number of years for all four of the state schools to achieve this. One of the vital factors in this development is the careful selection of future faculties combined with attempts to bring present faculties completely up to college standing. The qualifications for members of a teachers' college faculty as developed in this survey are recommended for adoption.[4]

6. Data presented has shown that the salaries paid members of the normal school faculties are inadequate for the high quality of service that must be rendered. One of the big problems facing the state is the proper recognition of the services of the teacher. It is therefore recommended that the suggested salary schedule presented in this report,[5] be adopted and applied upon the basis of the teacher qualifications[6] presented in recommendation five.

7. It is recommended that the size of classes at all schools be increased to approach the following distribution.[7]

25 Percentile	20
Median	30
75 Percentile	35

These suggested norms for sizes of classes are reasonable. They are now exceeded at the University of Michigan in

[1]—See Part III Chapter XXI.
[2]—See Part III Chapter XXIII.
[3]—See Part III Chapter XXIV.
[4]—See Part III Chapter XXV.
[5]—See Part III Chapter XXVI.
[6]—See Part III Chapter XXV.
[7]—See Part III Chapter IX.

the freshman and sophomore years in the College of Literature, Science and the Arts. There is no specific recommendation as to the number of teaching hours weekly, but it is suggested that this question be considered carefully by the individual colleges and be made more uniform.

8. The adoption of the proposed system of uniform budgeting and accounts as developed in another section of this study[1] is recommended. This system of accounts is based upon the generally accepted and standardized educational accounting terminology. Its use will make comparisons easier and will reveal more than the present system. It will easily fit into the present system of state accounting.

9. A simple system of student accounting is essential to secure comparative reports and statistics for normal schools. Details of such a system may be safely left to the individual college. It is therefore recommended that the student accounting rules developed be adopted and put into immediate practice.[2]

10. A unified publicity program that would serve to keep the needs for teacher training constantly before the people of the state in a more effective manner is earnestly recommended.[3]

11. The present nomenclature carries with it a popular impression that normal schools are merely super high schools. This is general throughout the country. It is desirable that this impression be changed. To this end it is recommended that in line with the general tendency, the names of the three state normal schools and of the Michigan State Normal College be changed by legislative enactment to "State Teachers' Colleges".[4] They might be designated as follows:

Michigan State Teachers College
Western Michigan Teachers College
Central Michigan Teachers College
Northern Michigan Teachers College

12. No change from the present method of financing the state normal schools is recommended.[5] It is both de-

1—See Part III Chapters XXVII, XXVIII.
2—See Part III Chapter XXX.
3—See Part III Chapter XXXI.
4—See Part III Chapter XXXII.
5—See Part III Chapter XXIX.

sirable and necessary that in the future the normal school financial program be presented as a complete program to the legislature instead of by individual schools. The schools should make their appeal to the State Board of Education and through that body to the Legislature. This is recommended upon the belief that it is generally easier to secure necessary appropriations for a complete program than to secure the same appropriations piecemeal.

13. In the development of training school facilities it is recommended that provision be made for elementary schools not to exceed 500 pupils, junior high or intermediate schools not to exceed 250, and high schools not to exceed 250. When the need for greater training facilities arises it can be met by co-operating with the public schools in the college city. This is both practical and economical.[1]

14. **The four state normal schools, when recommended plant changes and additions have been made, will be sufficient for the needs of the state until at least 1935. No additional normal schools are therefore recommended.**

15. It is very desirable that provisions be made for the establishment of a health service at each of the schools, under the general direction of the Health Department, whereby, for the payment of a small fee, each student would receive medical attention when necessary. In cities where there are no hospital facilities, it is desirable that the school establish an infirmary.

[1]—See Part III Chapter XXXIII.

Part II—Present Conditions

Chapter I—Education

Public education is one of the most important social functions of the state. The success or failure of a democracy depends ultimately upon the success or failure of public education. Since this is true it behooves the state to give to education the most constant, careful and intelligent consideration so that the state may be aware constantly of the educational aims and of the effectiveness with which these aims are being put into practice.

The success or failure of public education depends upon the quality of training and the social leadership that the teachers bring to their task of guiding the development of the children entrusted to them. It is fundamental that these teachers be well trained from a cultural as well as professional standpoint and possess a broad social understanding and a wholesome social philosophy.

As the state realizes the importance of education and gradually pushes up the compulsory school limit, and as the people themselves become convinced that schooling pays, the demand for teachers constantly increases. There are those who say that "teachers are born not made" and treat lightly the problem of teacher training. To these the answer is that it is true that some people are equipped with the native abilities which make for excellent teachers, but the supply is unfortunately nowhere equal to the demand. This forces the state to train others who may not be "born teachers" but who, after careful training, will perform those duties quite as effectively.

Since education is one of the most important social functions of the state it would appear that the best of our youth should be trained for the profession of teaching. It is reasonable to assume that the most intelligent, gifted and capable young men and women should be directed to the profession of teaching as heretofore they have been directed to law, medicine and commerce where the economic rewards have been greater. The tendency of the Americans to set up a standard that measures success in terms of money has undoubtedly drawn the best to the other professions in the past. This condition must be remedied and the prospects in the teaching profession must be made reasonably attractive so that the best talent may be secured for the training of the children.

To affect these changes certain things are necessary. These are:

1. The more general realization of the importance of education as a function of the state and not a whim of local communities.

2. The willingness of the people to reward better preparation and better teaching, thus making the returns in the teaching profession at least approach the average in the more lucrative professions.

3. The development of a more permanent teacher tenure based upon effective teaching and social leadership rather than arbitrary personal reactions or partisan politics.

4. The general raising of teacher training schools to university standards to provide for more extended training than at present.

5. The placing of the control of state teacher training schools in the hands of elective boards with legislative powers broad enough to provide, under proper constitutional safeguards, for the carrying out financially of the program of these educational institutions.

The realization of these five points will result in better training schools, better trained teachers and ultimately in more effective education that will truly prepare the children of the state for social effectiveness.

The carrying out of this program will be immediately expensive in terms of money expenditure but will bring greater returns, both economic and social, to a more intelligent and more capable community. As a college president recently remarked, "The cost of education is the price of democracy."

Chapter II—State Administration of Public Education

The control of public education in Michigan is vested in a series of elected and appointive boards and an elected superintendent of public instruction, responsible to the legislature and to the Administrative Board.

The people of the state elect at stated intervals members of the judiciary, state supreme court, members of the legislature, and certain executive officers including the governor, lieutenant governor, secretary of state, treasurer, auditor-general, attorney general, state highway commissioner and superintendent of public instruction.

The people also elect a series of administrative boards three of which are educational in character. These are the State Board of Education, The Board of Regents and the Board of Agriculture. The fourth educational board is appointed by the governor.

The superintendent of public instruction is a member of these boards, with the exception of the one on mines, in addition to some that are non-educational in character. A brief summary of his duties and functions follows.

The superintendent of public instruction has

1. General supervision of all public and private schools, colleges and the university, and all other institutions educational in character.

   In this respect his duties are:
   a. To visit institutions and meet governing boards.
   b. To enforce educational laws.
   c. To audit accounts of any school district where necessary.
   d. To require schools in every district to report to the governor on the general educational condition of the state and suggest improvements.
   e. To arrange teachers' institutes.
   f. To request the removal of incompetents and to remove members of any but city school boards for cause.
2. To appoint a deputy and several assistant superintendents of public instruction to assist in these duties and to remove them at his discretion.
3. To make rules and regulations for the management of the district school libraries, and to recommend lists of suitable books and to prepare a course of study for district schools.
4. To apportion the primary school interest fund according to the reports of the clerks as to the number of children.
5. To receive reports from incorporated academies and other literary and collegiate institutions and to make reports to the legislature.
6. To establish an information bureau for teachers and superintendents.
7. To prescribe the manner of taking the school census and to receive the entire census from districts.
8. To give information and assistance in establishing county schools of agriculture.
9. To be a member of the following boards:
   1. State Board of Agriculture.
   2. The Board of Regents.
   3. The State Board of Education.
   4. The Board in Control of State Institutions.
   5. The State Land Commission.
   6. The Teachers' Retirement Fund Board.
   7. State Board of Auditors.
   8. State Board of Escheats.
   9. State Board of Canvassers.
   10. The State Administrative Board.
10. To receive copies of all text books from publishers.

State Board of Education

The State Board of Education is composed of three members chosen by popular election for a term of six years. The terms of the members do not expire simultaneously. The governor fills vacancies occuring between elections by appointment.

The function of the State Board of Education, briefly, is to control, manage and direct the state normal schools subject to the limitations set by law.

The Board of Education must secure its annual appropriations from the legislature and by the Public Acts of 1921 is responsible to the Administrative Board for the expenditure of moneys.

The Board of Regents

The Board of Regents is composed of eight men who serve an eight year term. The terms of two regents expire simultaneously. The governor fills vacancies occurring between elections.

The Board of Regents is intrusted with the direction and control of the University of Michigan.

The Board of Regents has been granted a mill tax privilege by the legislature for maintenance but must secure from the legislature separate appropriations for buildings. The Public Acts of 1921 place the control of the building appropriations in the Administrative Board.

The State Board of Agriculture

The State Board of Agriculture consists of six members elected for a term of six years. Vacancies occurring between elections are filled by the governor.

The State Board of Agriculture is entrusted with the government of the Michigan Agricultural College and experiment stations operated in conjunction with the college.

This board, like the others, is dependent upon the legislature for appropriations and under the Acts of 1921 is subject to the regulations of the Administrative Board as regards the expenditure of building appropriations.

Michigan College of Mines

The Michigan College of Mines is controlled by a Board of Directors appointed by the governor. This board is dependent upon the legislature for appropriations and is subject to the jurisdiction of the State Administrative Board.

The State Administrative Board

The State Administrative Board, mentioned so frequently in the preceding pages, came into existence by the Public Acts of 1921. It is the first successful attempt upon the part of the governor to weld together in a responsible whole seven of the elected state executives and develop a single unified policy that should result in more effective state government. This organization is so unique in state administration that the act creating it is presented in full.

The State Administrative Board

"The People of the State of Michigan enact;[1]

Sec. 1 There is hereby created a board to be known and designated as the State Administrative Board of the state of Michigan. Said board shall be composed of the Governor, who shall act as chairman,

1—Act No. 2 Public Acts of 1921.

the Secretary of State, the State Treasurer, the Auditor General, the Attorney General, the State Highway Commissioner, and the Superintendent of Public Instruction, and shall possess the powers and perform the duties hereinafter imposed.

Sec. 2 Said board shall have power to adopt rules and regulations governing its procedure, to provide for the calling and holding of regular and special meetings, and for the general conduct of its business and affairs. It shall also direct the manner in which orders made by it shall be served, and may employ and fix the compensation of such agents and assistants as may be necessary to carry out any of the duties imposed by this act. The compensation of all the employes of the board, whether employed under this section or under any other section of the act shall be paid from the state treasury in the same manner as compensation of other state employes is paid Expenses necessarily incurred by any member of the board or by any of its employes while traveling in the performance of any of its duties hereby imposed shall likewise be paid in the same manner as are expenses incurred by other state officers and employes.

Sec. 3 The State Administrative Board shall exercise general supervisory control over the functions and activities of all administrative departments, boards, commissioners, and officers of the state, and of all state institutions. Said board may in its discretion intervene in any matter touching such functions and activities and may, by resolution or order, advise or direct the department, board, commission, officer or institution concerned as to the manner in which the function or other activity shall be performed, and may order an interchange or transfer of employees between departments, boards, commissions, and state institutions when necessary. It is hereby made the duty of every official and employe connected with any administrative department, office or institution of the state to follow the direction or order so given, and to perform such services in the carrying out of the purposes and intent of this act as may be required by the board. Failure to do so shall be deemed to constitute malfeasance in office and shall be sufficient cause for removal. In no case shall any order issue under this act without the written approval of the Governor.

Sec. 4 The powers and duties now vested by law in the State Budget Commission and in the Budget Director are hereby transfered to and invested in the State Administrative Board and shall be exercised thereby in accordance with said law, except as hereby modified. Wherever the term State Budget Commission or Budget Director may be used in any law of the state, reference shall be deemed to be made to the State Administrative Board hereby created. The board may also adopt rules and regulations not inconsistent with any provision of the law for the more efficient handling and expediting of such work.

Sec. 5 The State Administrative Board shall also be vested with the powers and shall perform the duties granted to and imposed by law on the State Purchasing Agent and on the Advisory Board in the Matter of State Purchasing. The board may adopt regulations governing the making of purchases and handling of accounts, not inconsistent with law. Whenever the term State Purchasing Agent or Advisory Board in the Matter of State Purchasing is used in any law of the state, reference shall thereby be understood to be made to the State Administrative Board.

Sec. 6 In addition to the foregoing powers and duties the State Administrative Board is hereby granted control over the system of state accounting and the manner of handling such work. The board may also engage suitable and necessary architectural service for the state, and for state and public educational institutions and may appoint or employ one or more competent architects or superintendents of construction for the supervision of the construction and repair of state buildings and other state work. Compensation of any architect or superintendent so appointed or employed shall be fixed by the board.

Sec. 7 The expenses of the administration of this act shall be paid out of the state treasury. The Auditor General shall estimate and include in the state tax for the years 1921-1922 a sufficient amount to reimburse the general fund for all moneys drawn therefrom under the provisions hereof for the current fiscal year, and for the fiscal years ending June 30, 1922, and June 30, 1923.

Sec. 8 The State Budget Commission, the Advisory Board in the Matter of State Purchasing, and the offices of the State Budget Director and State Purchasing Agent are hereby abolished. Any moneys appropriated by the acts creating said offices and now remaining in the treasury of the state, shall be available for use under the provisions hereof in carrying out the respective purposes for which such appropriations were made.

Sec. 9 All acts and parts of acts which in any way contravene the provisions of this act are hereby repealed.

Sec. 10 This act is hereby declared to be immediately necessary for the preservation of the public peace, health and safety. This act is ordered to take immediate effect."

This general state organization of higher education as discussed here is shown in diagram 1.

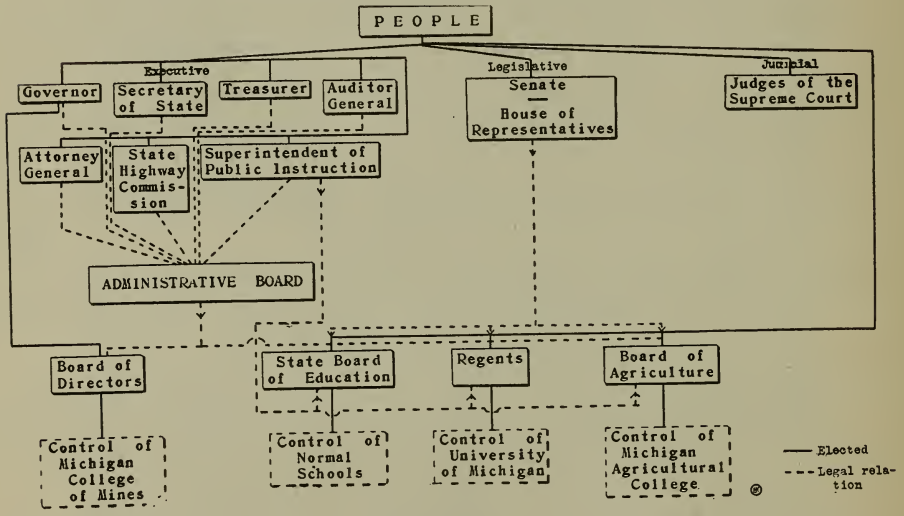

DIAGRAM 1

Chapter III—History

There are four state normal schools in Michigan, the establishment of the first dating back to 1849, the second to 1895, the third to 1899, and the fourth to 1903. Each of these was conceived to serve a like purpose, although each owes its existence to a separate act of the state legislature.

Michigan State Normal College

The Michigan State Normal School, created by law in 1849, and located in Ypsilanti in 1852, was the first to be established within the state of Michigan. The Central Michigan Normal School was established and located at Mount Pleasant in 1891, but was not owned and operated by the state until 1895. The third to be created by law was the Northern State Normal School located at Marquette in 1899. The fourth was created by an act of the legislature in 1903 and located at Kalamazoo as Western State Normal School. Geographically three of these schools are located in the southeastern, southwestern and central districts of the lower peninsula, and the fourth in the upper peninsula at Marquette.

The Michigan State Normal School at Ypsilanti, the sixth state normal school founded in the United States and the first west of the Allegheny mountains, owes its existence to Act number 138 of the Public Acts of 1849.

> "*An Act* to establish a State Normal School.
>
> *Section 1. Be it enacted by the Senate and the House of Representatives of the State of Michigan,* That a state normal school be established the exclusive purposes of which shall be the instruction of persons, both male and female, in the art of teaching and in all the various branches that pertain to a good common school education; also, to give instruction in the mechanic arts, and in the arts of husbandry and agricultural chemistry, in the fundamental laws of the United States, and in what regards the rights and duties of citizens.
>
> *Section 2.* The said normal school shall be under the direction of a board of education, and shall be governed and supported as hereinafter provided.
>
> *Section 3.* There shall be appointed by the governor, by and with the advice and consent of the Senate, a board of education consisting of three persons, one of whom shall hold his office for three years, another for two years and the other for one year. The governor shall designate which person is to hold his office for one year, which for two years, and which for three years. At each session of the legislature the vacancy occurring shall be filled as above directed. The governor shall fill any vacancy that may occur when the legislature is not in session. The lieutenant governor and the superintendent of public instruction shall, by virtue of their office, be members of said board, and the latter shall be their secretary, and shall keep an exact and detailed account of their doings. He shall also communicate such reports to the legislature as are required by this act.
>
> *Section 6.* Said board of education shall procure a site, and erect buildings thereon suitable for said institution in or near some village in this state, where it can most conveniently be done, and where in their judgment, it will most subserve the best interests of the state.
>
> *Section 7.* They shall also establish a model school in connection with a normal school and shall make all the regulations necessary to govern and support same."

The above act was passed in 1849 and the first class was graduated from the Michigan State Normal School in 1854.

The following statement taken from the Act of 1889, revising and compiling the school laws, embodies all that was expressed in Section one of the original act of 1849 and classifies the school:

> "The purpose of the normal school shall be the instruction of persons in the art of teaching and in all the various branches pertaining to the public schools of the State of Michigan."

The original site for the normal school contained less than six acres, situated on high ground overlooking the city of Ypsilanti which lies in the Huron river valley. This was increased by an acre purchased in 1893 for a gymnasium site. In 1895 the city of Ypsilanti presented to the college five acres adjoining on the north. Shortly after that the state bought four acres more and a later additional purchase of nine acres by the state, a gift of 20 acres from the citizens of Ypsilanti, and a gift of 10 acres jointly by the athletic council and alumni association, increased the original campus to approximately 55 acres. The college buildings are located on these grounds.

The legislature of 1899 authorized the State Board of Education to designate the school (in the courses leading to life certificates and degrees) as Michigan State Normal College. Under the action of the legislature of 1903, the State Board of Education organized courses leading to the degree of Bachelor of Science and Bachelor of Arts in Education.

Central Michigan Normal at Mt. Pleasant

Central Michigan Normal School, located at Mount Pleasant, was founded in 1891 by an association of citizens of that community for the single purpose of establishing a normal school. Under their direction a school was built and managed by them until 1895 when the plant was offered to the state and accepted under Act number 261 of the Public Acts of 1895.

> "An Act to establish a normal school in central Michigan.
>
> Section I. *The People of the State of Michigan enact:* That a normal school for the preparation and training of persons for teaching in the rural district schools, and the primary departments of graded schools of the state, to be known as 'Central Michigan Normal School', to be established and continued at the city of Mount Pleasant in Isabella County, to be located upon block ten of the normal school addition to said city, known as 'Normal Campus', and being a block of land in area between eight and ten acres.
>
> The purpose of the Central State Normal is to prepare teachers for service in the public schools of Michigan. The State Board of Education has selected this school as being best located and adapted for the preparation of teachers of agriculture for the public schools. In addition to those schools needing teachers who will devote their whole time to agriculture, the school also aims to serve the far larger number of schools that will require teachers of science and agriculture."

Northern State Normal at Marquette

The Northern State Normal School, located at Marquette in the upper peninsula, owes its existence to Act number 51 of the Public Acts of 1899 which reads as follows:

> "An Act to provide for the location, establishment and conduct of a Normal School at Marquette, in the Upper Peninsula of this state, and to make an appropriation for the same: *The People of the State of Michigan enact:*

Section 1. That a normal school shall be located at Marquette, to be known as the Northern State Normal School, for the purpose of instructing persons in the several branches pertaining to a public school education and in the science and the art of teaching the same.

Section 2. The State Board of Education is hereby authorized to procure a suitable site for the grounds and buildings for said normal school, which site shall consist of at least twenty acres of land, located within one and one-half miles of the present location of the post office in said city of Marquette. Said State Board of Education shall pay for such site a sum not exceeding one dollar, which sum is hereby appropriated for the use of said State Board of Education out of any moneys in the treasury not otherwise appropriated.

The fundamental purpose of the Northern State Normal School is the training of students who expect to teach in the public school system of Michigan, and the further training of those now teaching who desire better preparation for their professional duties."

The first session of the school was held in September 1899, the same year the act creating it was approved and passed by the legislature. Recitations were conducted in the Marquette city hall until July 1900 when the school was moved to the normal building which was then completed on Normal Bluff—the site where the school is now located.

The faculty, which consisted of six instructors in 1899, has increased to more than thirty members in 1921. Several departments have been added until two full years of collegiate work may be pursued at the school. There is given a graded school course and a rural school course, in addition to the life certificate course.

Western State Normal at Kalamazoo

The Western State Normal School owes its existence to Act number 156 of Public Acts of 1903 and reads in part as follows:

"*An Act* to provide for the locating, establishing and maintaining of a state normal school in the western part of the state, to make appropriations therefore and to provide a tax to meet the same.

The People of the State of Michigan enact:

Section 1. A state normal school shall be located, established and maintained in the western part of the state, at such place as the State Board of Education shall designate, to be known as the 'Western State Normal School' for the preparation and training of persons for teaching in the rural district schools, and the primary departments of the graded schools of the state.

Section 2. The State Board of Education is hereby authorized and directed to procure a suitable site of not less than twenty acres for the building and grounds for said normal school. Said State Board of Education shall pay for such site a sum not exceeding one dollar, to be drawn on the requisition of said State Board of Education, and the warrant of the Auditor General, as other moneys and appropriations are drawn.

The Western State Normal School created by the above Public Act of 1903 was opened (summer session) in the Kalamazoo high school building July 1, 1904. After one year in rented quarters the school occupied its first state owned building in September, 1905. Six buildings have since been erected.

The original tract of 20 acres has been enlarged by six separate land purchases. The present campus consists of 46 acres. More than half of this acreage, valued at $41,000, has been contributed by the school district of Kalamazoo and friends of the school.

Chapter IV—Organization of State Normal Schools

The organizations under which the state normal schools operate are very similar in character. Each institution is headed by a president, has a registrar, superintendent of training school and a dean of women and three of them have department heads.

The functions of the president are largely administrative and the supervisory duties are delegated to the department heads. There is again a further subdivision of administrative function through the creation of faculty committees which deal both with administrative detail and with policy development.

The director of the training school is classified in three schools upon the same level as a department head. His functions are administrative in each case and he also has control of the appointment and placement bureau.

In three schools the registrar has general control of records and financial activities. At Western State the operation and maintenance of buildings is also under his direction.

The office of dean of women exists in four schools. Her duties include general supervision of girls' activities and of their health. Definite provision for sickness is made only at Ypsilanti.

In common with the tendency in colleges there has been a general development toward many departments and department heads upon the basis of subject division. The number of department heads varies in the different schools from none at Kalamazoo to 20 at Ypsilanti. This has not been necessary from an instructional or supervisory standpoint but has resulted largely from an attempt to keep the strongest members of the faculty by securing an additional compensation by reason of the title. Such development was justified on these grounds. These organizations present certain points of difference and will therefore be discussed in detail as individual schools.

Michigan State Normal College

At Ypsilanti the President's administrative staff consists of the registrar, the dean of women, the superintendent of the training school and the superintendent of buildings and grounds.

The registrar is in charge of all records and financial activities and the administration of the general office. He has an office staff of seven.

The dean of women has control of the girls' activities and is in control of the Health Cottage and is over the college nurse. She has one assistant.

The superintendent of the training school has general charge of the training school building and of the training school faculty. He is also head of the appointment bureau and has an assistant and one stenographer.

The superintendent of buildings and grounds is responsible for the care and upkeep of the buildings and is directly responsible for the janitorial force.

The instructional side is organized upon the basis of the following departments:

Education[1]
- Psychology
- Pedagogy
- History
- Philosophy

Health
- Physical Education

Languages
- English
- Modern languages
- Latin
- Speech

Exact Science
- Mathematics
- Chemistry
- Physics
- Natural Science

Social Science
- Geography
- History

Vocational
- Industrial Arts
- Home Economics
- Rural Schools

Fine Arts
- Music

Extension

Training School

Library

There are 20 heads of instruction departments. Training School and Extension may be classed as administrative departments. Under these departments head are the associate and assistant professors and instructors.

This is shown in diagram 2.

1—The classification of these departments into divisions was made by the writer.

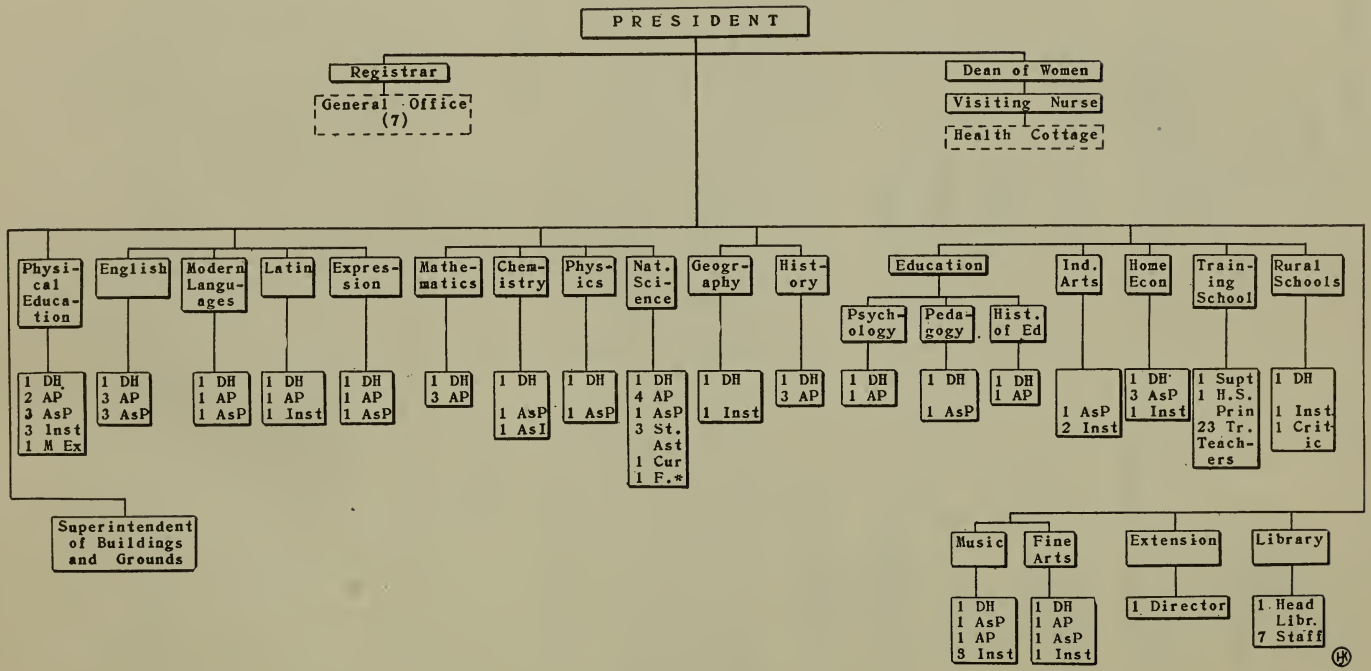
PRESIDENT
Registrar
General Office (7)
Dean of Women
Visiting Nurse
Health Cottage
Physical Education
1 DH
2 AP
3 AsP
3 Inst
1 M Ex
English
1 DH
3 AP
3 AsP
Modern Languages
1 DH
1 AP
1 AsP
Latin
1 DH
1 AP
1 Inst
Expression
1 DH
1 AP
1 AsP
Mathematics
1 DH
3 AP
Chemistry
1 DH
1 AsP
1 AsI
Physics
1 DH
1 AsP
Nat. Science
1 DH
4 AP
1 AsP
3 St. Ast
1 Cur
1 F.*
Geography
1 DH
1 Inst
History
1 DH
3 AP
Education
Psychology
1 DH
1 AP
Pedagogy
1 DH
1 AsP
Hist. of Ed
1 DH
1 AP
Ind. Arts
1 AsP
2 Inst
Home Econ
1 DH
3 AsP
1 Inst
Training School
1 Supt
1 H.S. Prin
23 Tr. Teachers
Rural Schools
1 DH
1 Inst
1 Critic
Superintendent of Buildings and Grounds
Music
1 DH
1 AsP
1 AP
3 Inst
Fine Arts
1 DH
1 AP
1 AsP
1 Inst
Extension
1 Director
Library
1 Head Libr.
7 Staff

DIAGRAM 2

Western State Normal School

The administrative staff at Western State Normal School consists of the registrar and head of extension, the principal of the training high school, the director of the training school and the dean of women. The registrar has general control of all records, financial activities, plant operation and maintenance.

There are nine administrative committees which function under the leadership of the president.

The instructional side is divided into departments under the leadership of the ranking member who acts as chairman of the faculty department committee. There are no department heads. The classification of departments is:

Education
- Education
- Psychology
- Rural Education

Health
- Physical Education

Languages
- English
- Penmanship
- Speech
- Modern languages

Exact Science
- Mathematics
- Biology
- Chemistry
- Physics

Social Science
- History and Economics
- Geography

Vocational
- Library Methods
- Commerce
- Household Arts
- Manual Arts

Fine Arts
- Art
- Music

Library

Training School

This is shown in diagram 3.

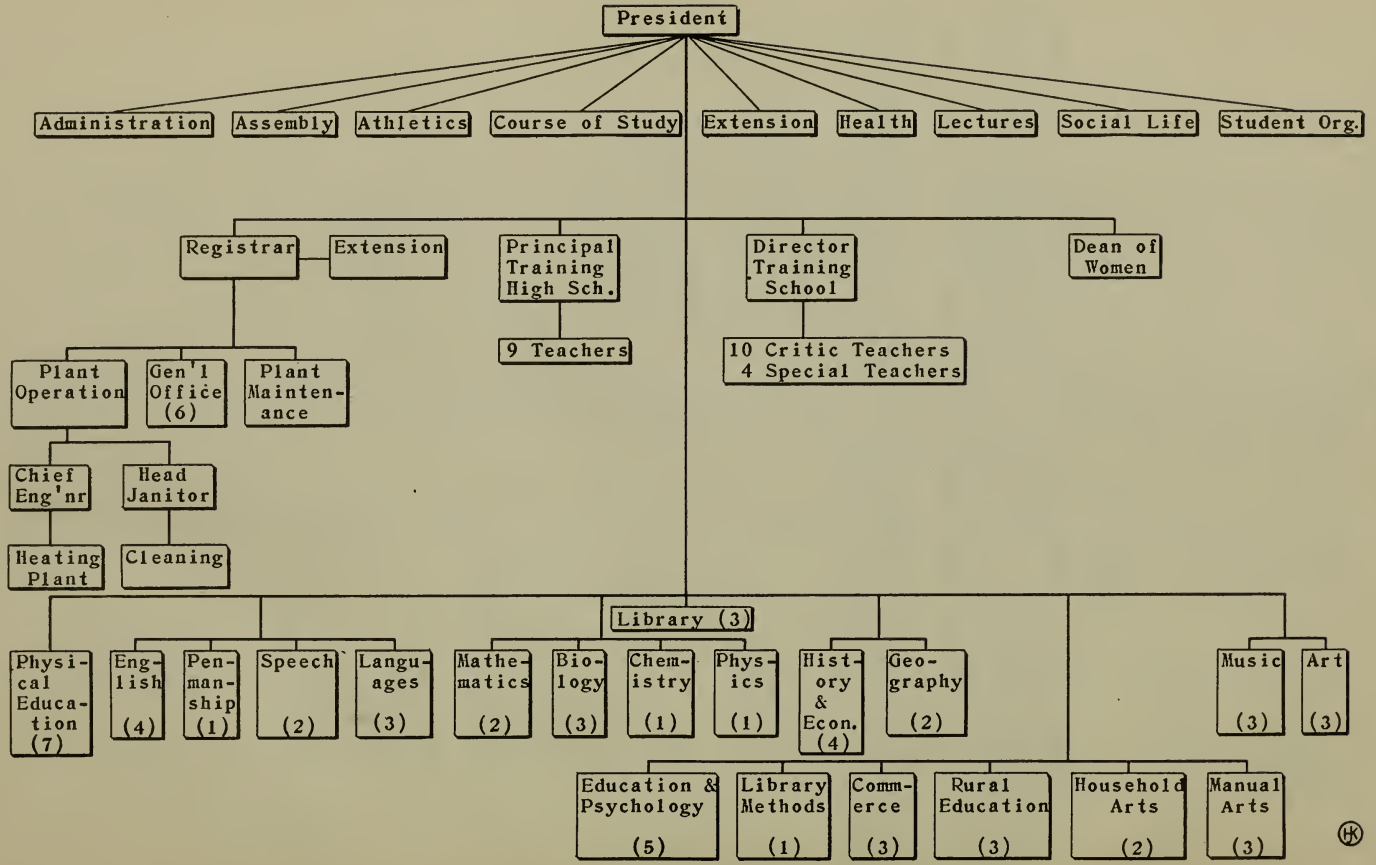
President
Administration
Assembly
Athletics
Course of Study
Extension
Health
Lectures
Social Life
Student Org.
Registrar
Extension
Principal Training High Sch.
Director Training School
Dean of Women
9 Teachers
10 Critic Teachers
4 Special Teachers
Plant Operation
Gen'l Office (6)
Plant Maintenance
Chief Eng'nr
Head Janitor
Heating Plant
Cleaning
Library (3)
Physical Education (7)
English (4)
Penmanship (1)
Speech (2)
Languages (3)
Mathematics (2)
Biology (3)
Chemistry (1)
Physics (1)
History & Econ. (4)
Geography (2)
Music (3)
Art (3)
Education & Psychology (5)
Library Methods (1)
Commerce (3)
Rural Education (3)
Household Arts (2)
Manual Arts (3)

DIAGRAM 3

Central Michigan Normal School

The Central Michigan Normal administrative staff is composed of the registrar and the dean of women. Seventeen administrative committees work under the direction of the president. The registrar has charge of records and general financial activities.

The instructional side of the school is divided into the following departments:

Education
- Psychology and Education
- Rural School

Health
- Physical Education and Physiology

Languages
- Reading and Speech
- Foreign languages
- English[1]

Exact Sciences
- Mathematics
- Physics and Chemistry
- Biology

Social Sciences
- Geography
- History and Social Sciences

Vocational
- Agriculture
- Kindergarten[1]
- Commercial[1]
- Manual Training and Home Economics[1]

Fine Arts
- Art
- Music

Library

Training School

There are 17 departments and 17 department heads. The heads of four departments, English, Manual Training and Home Economics, Commercial and Kindergarten are not receiving the salaries for these positions owing to lack of funds.

This organization is shown in diagram 4.

1—No special salary recognition.

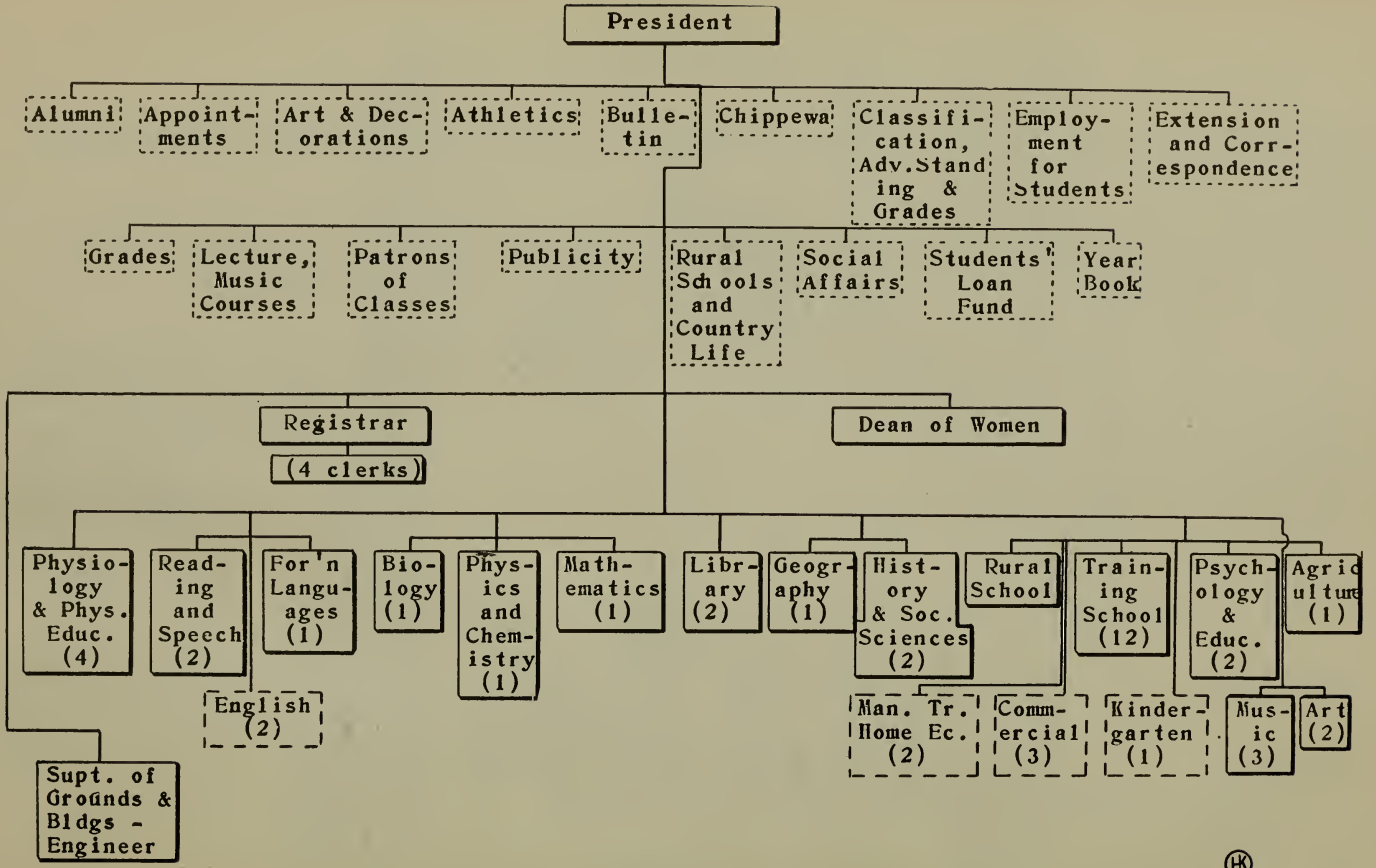
President
Alumni
Appointments
Art & Decorations
Athletics
Bulletin
Chippewa
Classification, Adv. Standing & Grades
Employment for Students
Extension and Correspondence
Grades
Lecture, Music Courses
Patrons of Classes
Publicity
Rural Schools and Country Life
Social Affairs
Students Loan Fund
Year Book
Registrar
(4 clerks)
Dean of Women
Physiology & Phys. Educ. (4)
Reading and Speech (2)
For'n Languages (1)
Biology (1)
Physics and Chemistry (1)
Mathematics (1)
Library (2)
Geography (1)
History & Soc. Sciences (2)
Rural School
Training School (12)
Psychology & Educ. (2)
Agriculture (1)
English (2)
Man. Tr. Home Ec. (2)
Commercial (3)
Kindergarten (1)
Music (3)
Art (2)
Supt. of Grounds & Bldgs - Engineer

DIAGRAM 4

Northern State Normal School

The administrative staff at Northern State Normal School is composed of the registrar and the superintendent of the training school. There is an acting dean of women. The head of the physical training department performs certain of the functions of a dean of women in conjunction with her regular work. The registrar is responsible for records and financial activities. The instructional side is divided into the following departments:

Education
- Education
- Kindergarten

Health
- Physical Training

Languages
- English
- Latin
- Modern languages
- Expression

Exact Sciences
- Mathematics
- Biology
- Physical Sciences

Social Sciences
- History
- Geography
- Social Science

Vocational
- Manual Training
- Home Economics
- Commercial

Fine Arts
- Art
- Music

Library

Training School

There are 19 heads in charge of these instructional departments. This is shown in diagram 5.

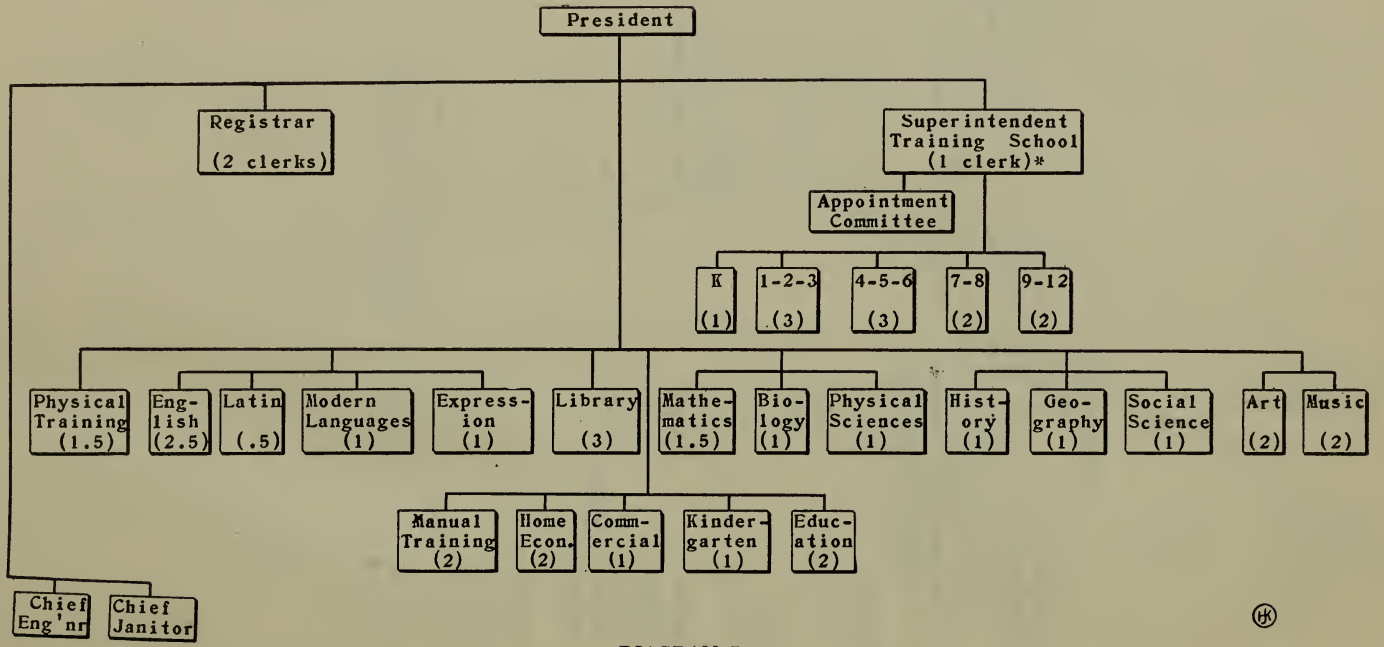
President
Registrar (2 clerks)
Superintendent Training School (1 clerk)*
Appointment Committee
K (1)
1-2-3 (3)
4-5-6 (3)
7-8 (2)
9-12 (2)
Physical Training (1.5)
English (2.5)
Latin (.5)
Modern Languages (1)
Expression (1)
Library (3)
Mathematics (1.5)
Biology (1)
Physical Sciences (1)
History (1)
Geography (1)
Social Science (1)
Art (2)
Music (2)
Manual Training (2)
Home Econ. (2)
Commercial (1)
Kindergarten (1)
Education (2)
Chief Eng'nr
Chief Janitor

DIAGRAM 5

Chapter V—Growth of the State Normal Schools

Regular Session

The growth of the state normal schools since 1910-11 is generally similar to that of schools in the country as a whole.[1] The registration in the regular session in 1910–11 was 2,975. There was a fairly steady increase for the next three years, which, in 1914-15, had reached 10% and remained stationary during the succeeding year. The first year of the war saw the highest point, 3,736 registrations, until the fall of 1921.

The three years beginning with 1917-18 saw the registration drop below the 1910-11 mark, reaching the lowest point in 1919-20 with a total of 2,738 in the four schools.

This drop was common to all teacher training schools although the drop for the country as a whole[1] was not below the 1910-11 level. The Michigan schools appeared to have suffered more from the war than the average for the country. In 1920-21 there was a noticeable increase and in the fall of 1921 the registration jumped to 3,945, the highest point in the history of the schools.

These data appear in Table 1 and diagram 6.

TABLE 1—GROWTH OF THE STATE NORMAL SCHOOLS (REGULAR SESSION)

Year	Mich. State	Western State	Central Mich.	Northern State	Total	Inc. over 1910	% Inc.
1910–11.....	1559	612	512	292	2975	.....	.....
1911–12.....	1641	635	536	358	3170	195	6.6
1912–13.....	1616	678	457	380	3131	156	5.2
1913–14.....	1670	614	476	305	3065	90	3.0
1914–15.....	1702	670	507	395	3274	299	10.1
1915–16.....	1704	653	491	437	3285	310	10.4
1916–17.....	1825	903	508	500	3736	761	25.6
1917–18.....	1490	747	339	374	2950	–25	–.8
1918–19.....	948	977	553	398	2876	–99	–3.3
1919–20.....	1199	797	422	320	2738	–237	–8.0
1920–21.....	1295	1023	491	366	3175	200	6.7
1921–22.....	1527	1294	634	490	3945	970	32.6

Summer Schools

The development of the summer schools followed the same general trend as the regular session until 1915 when an unexpected growth took place, and there was a registration of 3,194 or 32.1% more than in 1910. This rose to 4,314 in 1916, and then dropped to 3,742 in 1918. The summer of 1921 saw 5,996 or 102.4% more than in 1910, in these schools.

The more rapid growth in the summer session, compared to the regular school may be due to several factors, among which are: (a) the increased interest or professional stimulation caused by the war, (b) the general increase in salaries carrying with it a demand for better trained teachers, (c) the act of 1915 legislature

1—Schools in 29 states and District of Columbia. See Appendix, Table I.

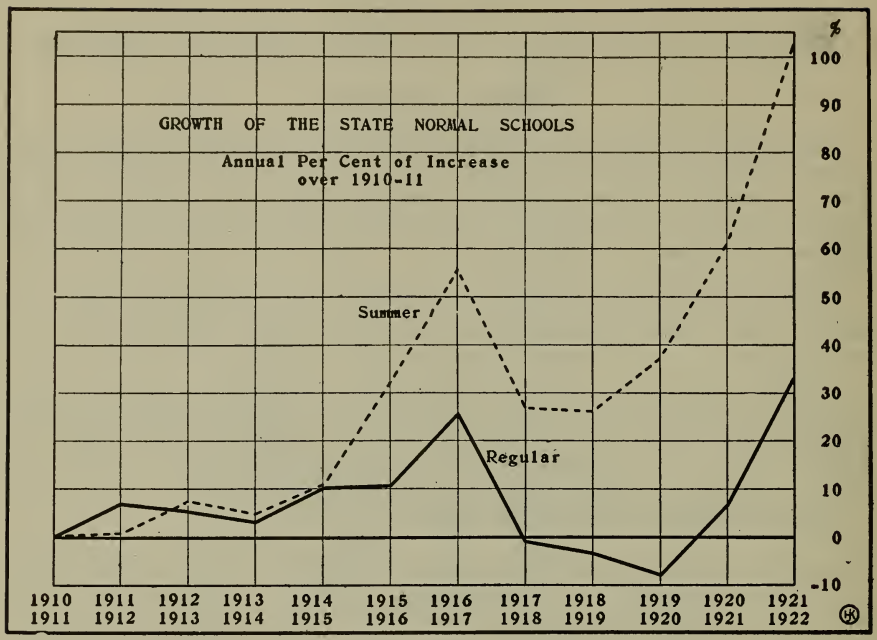

DIAGRAM 6

requiring six weeks of training for limited certification,[1] (d) the acts of the last legislature so wisely providing for greater professional training upon the part of all teachers whether in public, or non-public schools.[2]

The proportion of non-public teachers in the 1921 sessions was evidence of this. This growth is shown in Table 2 and in diagram 6.

TABLE 2—GROWTH OF THE STATE NORMAL SCHOOLS (SUMMER SESSIONS)

Year	Mich. State	Western State	Central Mich.	Northern State	Total	Inc. over 1910	% Inc.
1910.....	1291	834	542	296	2963	.....	.....
1911.....	1419	824	396	345	2984	21	.7
1912.....	1507	855	442	378	3182	219	7.4
1913.....	1340	845	512	408	3105	142	4.8
1914.....	1535	820	515	413	3283	320	10.8
1915.....	1662	931	755	566	3914	951	32.1
1916.....	1939	1222	530	623	4314	1351	45.6
1917.....	1608	896	719	534	3757	794	26.8
1918.....	1475	1011	751	505	3742	779	26.3
1919.....	1514	1004	980	568	4066	1103	37.2
1920.....	1705	1033	1373	666	4777	1814	61.2
1921.....	2004	1608	1301	1083	5996	3033	102.4

[1]—Public Acts of 1915 No. 7 pp. 12–14.
[2]—Public Acts of 1921 No. 186 pp. 368–372.

Growth By Individual Schools

Michigan State Normal College

Michigan State Normal College at Ypsilanti was hardest hit by the war of all four schools. In 1910-11 the registration was 1,559. This increased to 1,825 in 1916-17 and then dropped, reaching its lowest point, 948, in 1918-19. Since that time the increase has been steady but the fall of 1921 still found the registration, 1,527, 2% under that of 1910-11. Next year's registration should be above the 1916-17 level.

The summer school, while affected by war conditions, did not drop to the same levels, and in 1921 reached a total of 2,004 or 55.2% greater than in 1910. This is shown in Table 3 and diagram 7.

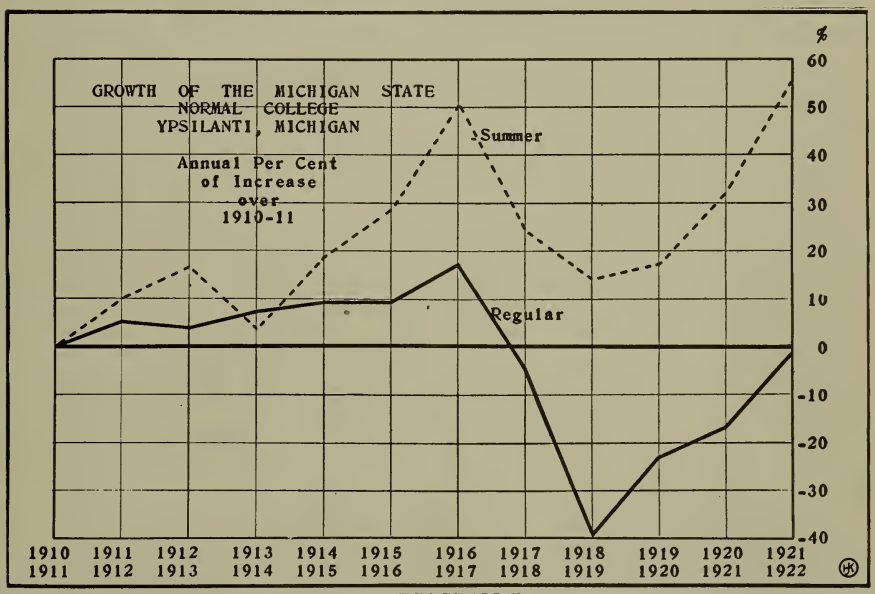

DIAGRAM 7

TABLE 3—GROWTH OF MICHIGAN STATE NORMAL COLLEGE

Year	Regular Session			Summer Session		
	Enrollment	Inc. over 1910	% Inc.	Enrollment	Inc. over 1910	% Inc.
1910–11	1559	.....	.....	1291	.....	.....
1911–12	1641	82	5.3	1419	128	9.9
1912–13	1616	57	3.7	1507	216	16.7
1913–14	1670	111	7.1	1340	49	3.8
1914–15	1702	143	9.2	1535	244	18.9
1915–16	1704	145	9.3	1662	371	28.7
1916–17	1825	266	17.1	1939	648	50.2
1917–18	1490	−69	−4.4	1608	317	24.6
1918–19	948	−611	−39.2	1475	184	14.3
1919–20	1199	−360	−23.1	1514	223	17.3
1920–21	1295	−264	−16.9	1705	414	32.1
1921–22	1527	−32	−2.0	2004	713	55.2

Western State Normal School

The Kalamazoo growth is quite irregular. A period of growth has always been succeeded by a slight decline the following year, but the general tendency upward has been greater than at Ypsilanti. The war retarded development only in 1917-18. In the fall of 1921 the registration was 1,294, an increase of 111.4% over 1910-11. This is the greatest growth of any of the state schools.

Except for the years of 1915 and 1916 the summer school has lagged behind the regular school enrollment. In 1921 the registration for the summer quarter was 1,608 or 92.8% above that of 1910.

These data are shown in Table 4 and diagram 8.

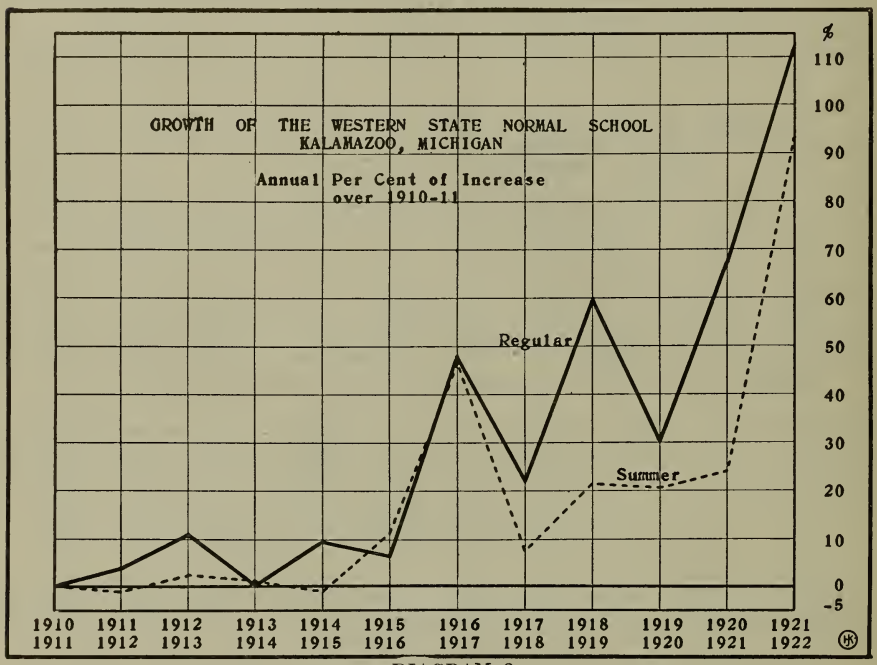

DIAGRAM 8

TABLE 4—GROWTH OF WESTERN STATE NORMAL SCHOOL

Year	Regular Session			Summer Session		
	Enrollment	Inc. over 1910	% Inc.	Enrollment	Inc. over 1910	% Inc.
1910–11	612			834		
1911–12	635	23	3.8	824	–10	–1.2
1912–13	678	66	10.8	855	21	2.5
1913–14	614	2	.3	845	11	1.3
1914–15	670	58	9.5	820	–14	–1.7
1915–16	653	41	6.7	931	97	11.6
1916–17	903	291	47.6	1222	388	46.5
1917–18	747	135	22.1	896	62	7.4
1918–19	977	365	59.6	1011	177	21.2
1919–20	797	185	30.2	1004	170	20.4
1920–21	1023	411	67.2	1033	199	23.9
1921–22	1294	682	111.4	1608	774	92.8

Central Michigan Normal School

The Mount Pleasant school shows a decreasing attendance during this period except for 1911-12, 1918-19, and the current year. In 1910-11 there were 512 students at Central Michigan Normal. In 1917-18 this had dropped to 339. The enrollment for the year 1918-19 was abnormal, owing to the presence of the Student Army Training Corps. The enrollment in the S.A.T.C. was 240, many of whom would probably not have enrolled in Central Normal had it not been for war conditions. The last three years have shown a consistent growth and this is likely to continue.

The summer session, from 1910-11 through 1913-14 showed a decrease, but has grown rapidly since that time, except in 1915-16. The growth curve shows no depression during the war period.

These data are shown in Table 5 and diagram 9.

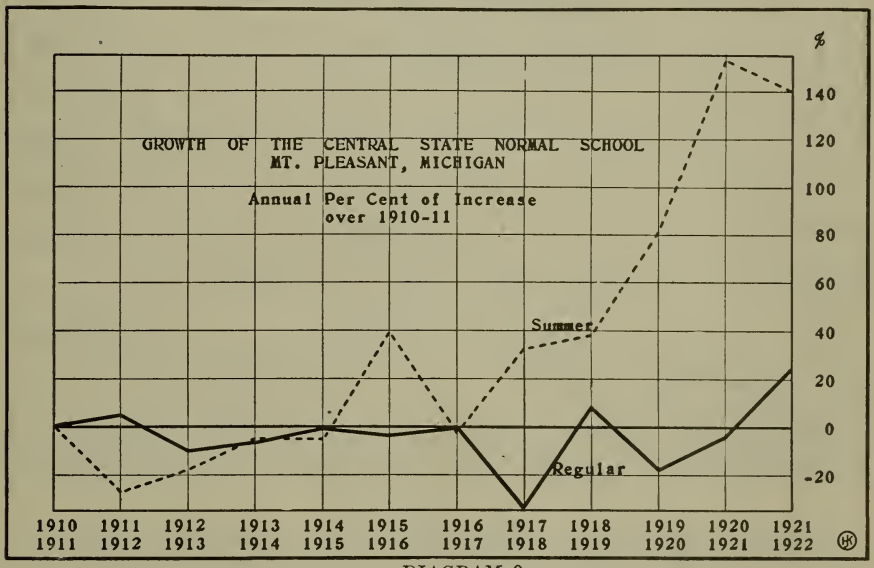

DIAGRAM 9

TABLE 5—GROWTH OF CENTRAL MICHIGAN NORMAL SCHOOL

Year	Regular Session			Summer Session		
	Enrollment	Inc. over 1910	% Inc.	Enrollment	Inc. over 1910	% Inc.
1910–11	512	.....	.....	542	.....	.....
1911–12	536	24	4.7	396	–146	–26.9
1912–13	457	–55	–10.7	442	–100	–18.5
1913–14	476	–36	– 7.0	512	–30	–5.5
1914–15	507	– 5	– 1.0	515	–27	–5.0
1915–16	491	–21	– 4.1	755	213	39.3
1916–17	508	– 4	– .8	530	–12	–2.2
1917–18	339	–173	–33.8	719	177	32.7
1918–19	553	41	8.0	751	209	38.6
1919–20	422	–90	–17.6	980	438	80.8
1920–21	491	–21	– 4.1	1373	831	153.3
1921–22	634	122	23.8	1301	759	140.0

Northern State Normal School

Marquette had 292 students in 1910-11. In 1921 there were 490, an increase of 67.8%. During this period there were big fluctuations in growth but the curve never dropped below the 1910-11 level.

The summer school has increased from 296 in 1910 to 1,083 in 1921, a gain of 265.9%. This is the largest summer growth of any of the four schools.

This is shown in Table 6 and diagram 10.

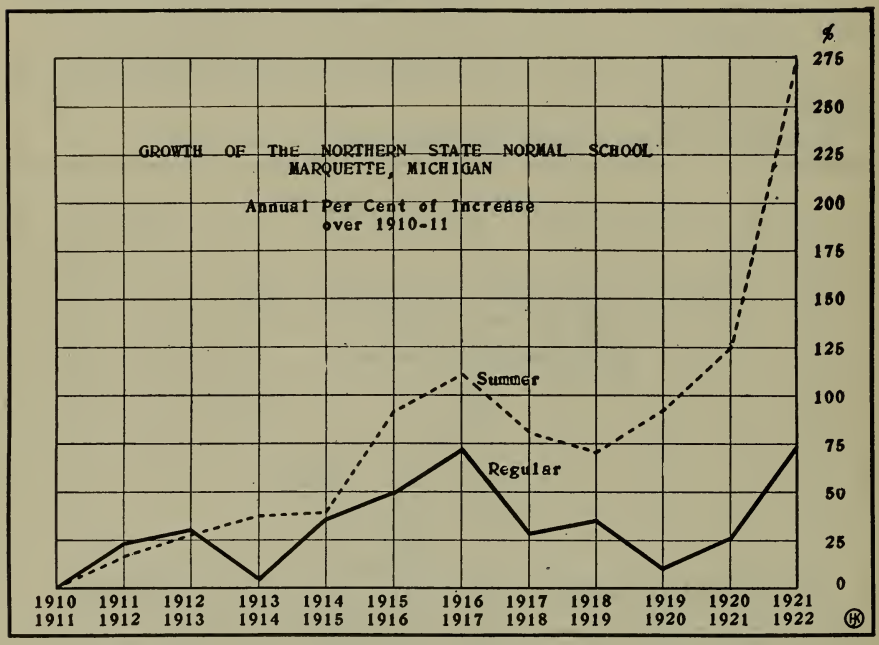

DIAGRAM 10

TABLE 6—GROWTH OF NORTHERN STATE NORMAL SCHOOL

Year	Regular Session			Summer Session		
	Enrollment	Inc. over 1910	% Inc.	Enrollment	Inc. over 1910	% Inc.
1910–11	292	.....	.....	296	.....	.....
1911–12	358	66	22.6	345	49	16.6
1912–13	380	88	30.1	378	82	27.7
1913–14	305	13	4.5	408	112	37.8
1914–15	395	103	35.3	413	117	39.5
1915–16	437	145	49.7	566	270	91.2
1916–17	500	208	71.2	623	327	110.5
1917–18	374	82	28.1	534	238	80.4
1918–19	395	103	35.3	505	209	70.6
1919–20	322	30	10.3	568	272	91.9
1920–21	366	74	25.3	666	370	125.0
1921–22	489	197	67.5	1083	787	265.9

Chapter VI—Sources of Students

Michigan State Normal College

Regular Session

Michigan State Normal College in the regular year 1916-17 had an enrollment of 1,825 students, including 1,533 from the lower peninsula of Michigan, 160 from the upper peninsula, 129 from other states and three from Canada.

Of the 83 counties in the state 79 were represented in the enrollment.[1] In general the southeastern section of the state, including 20 counties, furnished the largest portion of the student body. The northwestern section of the lower peninsula bordering on Lake Michigan from Emmet to Muskegon counties furnished a considerable share as did the counties lying diagonally from Muskegon to Washtenaw county. Each county in the upper peninsula was represented in the enrollment. Those counties on the northwest extremity of the state sent the major part of the students from the upper peninsula. Of the total enrollment for the year 8.8% came from the upper peninsula.

Of the 129 students from other states 64 came from Ohio, 24 from Indiana and the remaining 41 from twelve other states.

In 1921-22 the enrollment was 1,527 students, including 1,373 from the lower peninsula, 75 from the upper, 75 from other states, three from Canada and one from Porto Rico.

The 1921-22 enrollment was, in general, drawn from the same territory as in 1916-17. There is a noticeable thinning out in the northerly counties of the northwestern section of the lower peninsula and in the northwest section of the upper peninsula. There were 85 fewer students from the northern peninsula in 1921-22 than there were in 1916-17. These data are shown graphically in diagram 11.

Summer Session

Michigan State Normal College enrolled 1,939 students for the summer session of 1916, 1,608 for that of 1917, 1,475 for 1918, 1,514 for 1919, 1,705 for 1920 and 2,004 for 1921.

Students in the summer sessions of these years came from practically the same sections as did those who attended the regular sessions. The majority came from the southeastern section of the state while numbers came from those counties lying diagonally from Washtenaw to Muskegon and from the northwest section of the lower peninsula. In the last two summer sessions a tendency to draw more students from the northeastern side of the lower peninsula has become apparent.

The source of students in the 1921 summer session is shown in diagram 12.

1—For detailed report see Appendix, Tables II and LXXX.

DIAGRAM 11—Regular Registration, 1921-22.

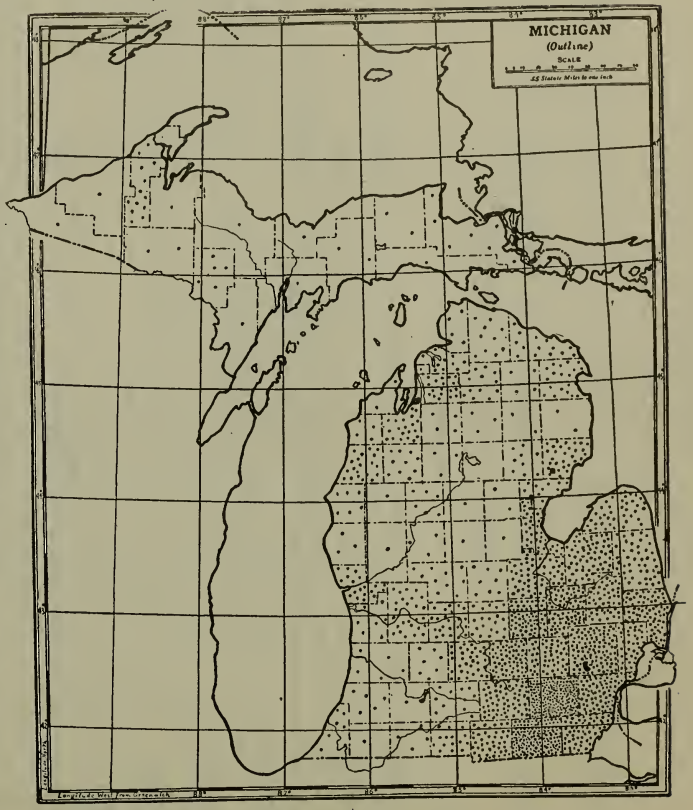

DIAGRAM 12—Registration, Summer 1921.

Western State Normal School

Regular Session

Western State Normal School during the regular year 1916-17 had an enrollment of 903 students, including 847 from the lower peninsula of Michigan, 35 from the upper peninsula and 21 from other states.

The southwestern section of the state furnished the greater part of the enrollment.[1] The counties within this section were fairly evenly drawn from, with the exception of Kalamazoo which furnished more than any other county. Students were drawn from those counties bordering on Lake Michigan as far north as Cheboygan. Fifteen of the 35 students from the upper peninsula came from Dickinson county.

The enrollment in 1921-22 was 1,294 including 1,211 from the lower peninsula, 55 from the upper and 28 from other states.

The increased enrollment came from the same sections as in 1916-17. The most noticeable increase occurred in the southwestern section where every county within that section in 1921-22 showed an increase over 1916-17. Those counties bordering the southwestern section show increases indicating an expansion of territory. In the upper peninsula Houghton county furnished 20 students while nine came from Dickinson. The remaining 26 came from all sections of the upper peninsula as in 1916-17. These data appear graphically in diagram 13.

Summer Session

Western State Normal School in the 1916 summer session enrolled 1,222 students; in 1917 there were 896 enrolled; in 1918, 1,011; in 1919, 1,004; in 1920, 1,033; and in 1921, 1,608.

In the main, summer session students for these years were drawn from the same territory as those of the regular academic session. The southwestern section of the state furnished the greater number of students. The tendency in 1920 and 1921 was one of expansion of the southwestern section to the east.

The source of 1921 summer session students is shown in diagram 14.

1—For detailed report see Appendix, Table III.

DIAGRAM 13—Regular Registration, 1921-22.

DIAGRAM 14—Registration, Summer 1921.

Central Michigan Normal School

Regular Session

Central Michigan Normal School in the regular year 1916-17 enrolled 508 students; 496 came from the lower peninsula of Michigan, six from the upper and six from other states.

Central Normal drew students from the central section of the state, from the Saginaw bay district and from the northwestern section of the lower peninsula.[1] The territory to the south of the college contributed more students than the territory on either the east or the west. The northwest section of the lower peninsula contributed in lesser numbers than did the territory to the south.

In 1921-22 the enrollment was 634, including 628 from the lower peninsula, four from the upper and two from other states.

The increased enrollment was drawn from the same territory as in 1916-17. Slight increases were made in the south of the central section of the state, while a noticeable increase was obtained from some of the counties in the northwest section. The data for the 1921 summer session are shown in the following map.

Summer Session

Central Michigan Normal School in the summer session of 1916 enrolled 530 students; in the session of 1917, 719; in 1918, 751; in 1919, 980; in 1920, 1,373 and in 1921, 1,301.

The students were widely drawn from central and northern sections of the lower peninsula. This territory, in general, is the same that furnished students for the regular year sessions. The tendency of the past two years is toward obtaining a greater number from the northwest and northeast sections as well as from the central section. This is shown in diagram 16.

1—For detailed report see Appendix, Tables IV and LXXX.

DIAGRAM 15—Regular Registration, 1921-22.

DIAGRAM 16—Registration, Summer 1921.

Northern State Normal School

Regular Session

Northern State Normal School in the regular year 1916-17 enrolled 500 students including 485 from the upper peninsula of Michigan, seven from the lower peninsula and eight from other states.

Of the 485 enrolled from the upper peninsula 428 came from Marquette, Houghton, Gogebic, Iron, Dickinson and Menominee counties while 57 came from the nine remaining counties.[1]

In 1921 the enrollment was 490. There were 479 from the upper peninsula, 10 from the lower and one from one other state. Of the 479 from the upper peninsula 409 came from Marquette, Houghton, Gogebic, Iron, Dickinson and Menominee counties while the nine remaining counties contributed 70 to the enrollment. The 1921-22 registration is shown in diagram 17.

Summer Session

Northern State Normal School for the summer session of 1916 had an enroll ment of 623 students; for that of 1917, 534; in 1918, 505; in 1919, 568; in 1920, 666 and in 1921, 1,083 students.

Summer sessions at Northern State are largely attended by students from all counties in the upper peninsula and a good number from the lower peninsula, differing in that respect from the regular year enrollment.

The 1921 summer registration is shown in diagram 18.

—For detailed report see Appendix, Tables V and LXXX.

DIAGRAM 17—Regular Registration, 1921-22.

DIAGRAM 18—Registration, Summer 1921.

Chapter VII—Placement of Graduates

The data on placement of graduates represents only such placements as were made by the placement bureaus of the colleges. Many of the graduates secure positions for themselves. It is the opinion of the college authorities that the greater number of graduates are placed in Michigan, most of them in or near the towns from which they come.

Michigan State Normal College

Michigan State Normal College in the year 1916-17 graduated 995 teachers and secured teaching positions for 496 or 49.9% of its graduates in the state of Michigan.[1] This number was placed for the most part in the southeastern, south central and western sections of the lower peninsula, although 44 graduates were employed in the upper peninsula.

Placements for the years following through 1920-21 were, in general, distributed through the same sections as in 1916-17, except that placements in the upper peninsula have decreased to seven in 1920-21.

In 1917-18 Michigan State placed 44.4% of its graduates in Michigan; in 1918-19, 44%; in 1919-20, 48.6%; in 1920-21, 47.8%. Over these years an average of 47% of its graduates have been placed in Michigan.

Placements made in 1920-21 are shown in diagram 19.

MICHIGAN STATE NORMAL COLLEGE

DIAGRAM 19—Placement of Graduates, 1921.

1—See Appendix, Table II.

Western State Normal School

Western State Normal School in 1916-17 placed 242 or 70.1% of its 345 graduates in teaching positions in Michigan.[1] Placements were made in large proportion in the southwestern section of the state, although a number were placed in the south central and south eastern sections.

The general distribution of graduates in the years following 1916-17 through 1920-21 was practically the same as in 1916-17, although placements in the south central section have decreased to some extent.

Placements in 1917-18 were 63.8% of the number graduated; in 1918-19 they were 76.1% and in 1919-20, 63.4%. The average per cent over these years is 68.3%.

Placements made in 1920-21 are shown in diagram 20.

WESTERN STATE NORMAL SCHOOL

DIAGRAM 20—Placement of Graduates, 1921.

[1]—See Appendix, Table III.

Central Michigan Normal School

Central Michigan Normal School in 1916-17 graduated 265 teachers and found teaching positions in Michigan for 239 or 90.2%.[1] These were distributed mainly in the central section, while a number were placed in the northwest section of the lower peninsula.

In 1917-18, 1918-19,1919-20, and 1920-21 a tendency to place more teachers in the thumb district has become apparent. Central Normal placed 86.9% of its 1917-18 graduates in Michigan; 85.3% in 1918-19; 85% in 1919-20, and 79.2% in 1920-21. The average per cent over these years is 85.5%. The 1920-21 placements are shown in diagram 21.

CENTRAL MICHIGAN NORMAL SCHOOL

DIAGRAM 21—Placement of Graduates, 1921.

[1]—See Appendix, Table IV.

Northern State Normal School

Northern State Normal School in 1916-17 graduated 195 teachers and found teaching positions in Michigan for 150 or 76.9%.[1] The majority were placed in Houghton, Gogebic and Iron counties, while none were placed in Menominee, Mackinaw or Keweenaw counties. The same was true of the distribution in 1917-18, save that Marquette county placements increased. Placements in 1918-19 were generally the same as in the year previous with five placed in Menominee county. Practically the same distribution was made in 1919-20 and 1920-21 although in these years a few placements were made in the lower peninsula.

In 1917-18 the placements were 82% of the number graduated; in 1918-19, 95.5%; in 1919-20, 78% and in 1920-21, 85.5%, while the average per cent of graduates placed in Michigan from 1916-17 through 1920-21 was 83%. The 1920-21 placements are shown in diagram 22.

NORTHERN STATE NORMAL SCHOOL

DIAGRAM 22—Placement of Graduates, 1921.

1—See Appendix, Table V.

SUMMARY

1. All of the state normal schools suffered a setback because of the war but had recovered by the fall of 1921 when 3,945 students were registered, 32.6% more than 1910-1911.

2. The growth curves of all four schools are quite irregular although the general tendency is upward.

3. The summer school growth has exceeded that of the regular session except at Western State.

4. The source of students from counties within the state shows a fairly distinct distribution for each. Both Michigan State and Western State draw rather heavily from one or more of the upper peninsula counties which by geographical location should naturally fall in the Northern State district.

5. A natural districting has been developed unconsciously, each school drawing most of its students from the territory immediately surrounding it. This appears to have worked out so well that any plan of artificial districting would not seem desirable.

6. The great majority of the graduates are placed in Michigan, although the records of the several placement bureaus do not show this. College officials state that many return to teach in or near their home towns where positions are secured for them by friends on the basis of personal knowledge. The schools are really serving the function for which they were created, viz., to furnish teachers in sufficient numbers for Michigan public schools.

Chapter VIII—The Physical Plant

The present condition of the physical plant, its development, capacity and use will be considered in this chapter.

A brief discussion of the theory of educational building-use must preface these individual studies. In the past there may have been a period when building-use was relatively unimportant but, with the mounting cost of education and increase in other public expenditures, the financial burdens of the people are increasing rapidly, while the ability to meet them will be somewhat hampered by the industrial conditions of the post war period. It will be necessary therefore during the next decade for state educational institutions to give careful attention to the development of more effective use of the school plant.

In this report two terms are used to describe different types of capacity:

1. STANDARD CAPACITY

By standard capacity is meant the total number of students who could be cared for in the school plant at any one time upon the basis of a proper relationship of individuals to square feet of floor area or cubic feet of air space.

2. USABLE CAPACITY: (REASONABLE CAPACITY)

By usable capacity or reasonable capacity is meant the number of students who can be accommodated at any one time in the school plant on an arbitrary percentage of the standard capacity.

Generally speaking, it is fair to assume that a college building adapted to the educational program should function up to 80% of its room capacity and to at least 50% of its standard capacity.

This is much lower than commercial usage and much higher than average present academic use throughout the country.

In secondary school practice it is now customary to set the usable capacity at 80% of the standard capacity. Careful study of this statement will make apparent its reasonableness. As capacity varies with the length of the school day, it is again reasonable to assume that a college building should be used eight hours each day and at least four hours on Saturday, making a 44 hour week. Upon this assumption, with the usable capacity set at 50%, with the average student load of 16 recitation or laboratory periods weekly, a college building can care for practically three times the usable capacity of the plant at a single period. An example:

Let us assume a building that on the basis of 50% of its standard capacity at any period could care for 500 students. As these students average 16 recitation periods a week they could actually be cared for if the building were open 16 hours weekly or three hours daily. By increasing the building day to eight hours with four more on Saturday, or a total of 44, it is possible to increase the capacity to approximately 1,500 instead of 500 students without unduly crowding the building.

Survey Procedure

In making this plant survey of Michigan state normal schools the following procedure was followed.

1. The building survey was made through the use of questionnaires. These questionnaires were sent to each of the four state normal schools where the data was gathered for one week under the direction of the administrative officers of

each college and presented by them to the director of the survey. In doubtful cases the college involved was consulted personally or by correspondence until the situation was cleared up.

2. Method of ascertaining standard capacity:

The following bases were used in determining the standard capacities:

a. A week of 44 clock hours was used in buildings devoted to the instruction of normal college students, eight clock hours every day and four hours from 8 a. m. to 12 N. Saturday.

b. A week of 25 clock hours was used in buildings devoted to the instruction of pupils in the elementary training schools or five clock hours five days a week. Thirty instruction hours was the basis for one week in the training high school, or six clock hours five days a week.

c. The use of each room and building was based on standard capacity and was ascertained by the following formulae:

1. If the height of a room was 12 feet or less than 12 feet the cubic contents were divided by 240 to secure the standard capacity.
2. If the height of a room was more than 12 feet the area in square feet was divided by 18 to secure the standard capacity.

Michigan State Normal College

Campus

The campus at Ypsilanti includes about 65 acres at the present time. This represents a gradual enlargement by purchase and gift since 1852 when the original campus of 5.9 acres was purchased by the state and city. Almost 30 acres of this have been given to the state by the city, the alumni and the athletic association. The land has been secured at very reasonable cost and has since greatly increased in value. The college was fortunate in that the administration realized the value and necessity of an inspirational setting as well as of a good sized campus to care for a growing school. Michigan State has the finest campus of the state schools. The manner of acquisition, the acreage and the cost of this land is shown in the following table.

TABLE 7—PRESENT GROUNDS

Year Acquired	Acres	Cost	By whom purchased
1852	5.935	900	City and State
1893	1.5	1,500	City and lecture committee
1895	3	8,500	Citizens
1902	5.5	6,000	Citizens
1904	4	4,000	State
1904	10	1,000	State
1905	10	1,200	State
1913	4	3,000	State
1913	½ block	10,500	State
1919	10	.....	Alumni & Athletic Association
	1 lot	400	Citizens
	2 lots	.....	City
	1 lot	5,800	State

TABLE 8—PHYSICAL PLANT

Building	Year	Year of building additions	Type	Total Cost	By whom built
Original building...	1852		All purposes	$15,200	State & Citizens
Destroyed by fire..	1859				
Rebuilt.....	1860				
Old gymnasium destroyed by fire...	1873		Gym. classes	1,200	State
Conservatory.....	1865		Tr. school till 1882, then con. classes	12,500	State & Citizens
Wrecked for site of administration building.....	1914				
Front addition to Main building.....		1878	Classrooms	43,347	41347–State 2000 Citizens
Rear addition Main building		1882	Training school	25,000	State
North & south wings Main building.....		1888	library, lit. societies, study halls, class rooms	60,000	State
Lavatories & toilets.		1892		8,000	State
Gymnasium.....	1894		Gym. classes	20,000	State
Training school....	1897		Training sch.	25,000	State
Starkweather Hall..	1897		Y.M.C.A. & Y.W.C.A.	10,000	Bequest
Wings of training school.....		1900	Training school	15,000	State
Science building....	1902		Chemistry, physics & nat. science	55,000	State
Addition to training school.....		1909	Home economics	30,000	State
Men's gymnasium..	1913		Gym. classes	30,000	State
Health cottage bought in 1913			Hospital	5,500	State
Auditorium.....	1915		Conserv. classes auditorium	159,000	State
President's residence bought.....	1915			8,000	State
Administration building.....	1918		Offices, classrooms	185,000	State

Physical Plant

The original building was erected in 1852 and destroyed by fire in 1859. It was rebuilt in 1860. Several of the other older buildings have been destroyed by fire or wrecked after having become obsolete. Some of the older buildings are still in existence and in constant use. They are grave fire hazards and should be replaced as soon as possible. The present plant may be divided into two groups, (1) modern buildings that will function for many years and (2) buildings that must be eliminated at an early date.

MODERN	OBSOLETE AND UNSAFE
Administration building	Main building
Auditorium	Rear addition-main building
Men's gymnasium	North wing-main building
Women's gymnasium	
Science building	
Training School	

Intermediate and High Training School (allowed but not yet constructed)

The development of the physical plant is shown in Table 8.

Capacity

As the plant now exists, including obsolete buildings, but excluding training elementary and training high schools and the auditorium, this school has a standard capacity at any one period of 3,178. If we assume a reasonable use to be 50% of the standard capacity the plant has a usable capacity of 1,500 at any single period. It would then, upon the basis of a 44 hour week, be possible to care for approximately 4,500 students. The registration in the 1921 fall quarter was 1,527.

The total floor area in square feet is 114,508. Of this 73,694 or 64.4% is available for instruction purposes. Administration requires 21.6%; 8.4% is devoted to an assembly hall and the balance to operation and accessories. This is shown in figures in Table 9 and in per cents in Table 10.

TABLE 9—DISTRIBUTION OF FLOOR SPACE IN SQUARE FEET

Building	Total Floor Space sq. ft.	Instruction Floor Space Space sq. ft.	Administration Floor Space sq. ft.	Assembly Floor Space sq. ft.	Operation Space sq. ft.	Toilets, etc. Floor Space sq. ft.
Administration...	25,210	12,209	10,375	.....	638	1,988
Main[1]...	32,022	26,488	4,622	.....	.....	912
Science...	21,572	17,615	3,957	.....	.....	.....
Pease Auditorium...	16,525	2,288	2,737	9,600	300	1,600
Gymnasium.....	19,179	15,094	2,990	.....	255	840
Total.....	114,508	73,694	24,681	9,600	1,193	5,340

1—Does not include space used for high training school in Main Building.

TABLE 10—PER CENT DISTRIBUTION OF FLOOR SPACE

Building	Total per cent	Instruction per cent	Administration per cent	Assembly per cent	Operation per cent	Toilet, etc. per cent
Administration	100	48.4	41.2	.....	2.5	7.9
Main	100	82.7	14.4	.....	.....	2.9
Science	100	81.7	18.3	.....	.....	.....
Pease Auditorium	100	13.9	16.6	58.1	1.8	9.6
Gymnasium	100	78.7	15.6	.....	1.3	4.4
Total	100	64.4	21.6	8.4	1.0	4.6

Seating Capacity

The total standard and actual present seating capacities of each building were tabulated. The total seating capacity of the normal plant, excluding the auditorium, is 2,789. The standard capacity is 3,178, or an underload of 389 seats or 12.2%. The present demands upon the plant are such, however, that the administration is justified in not attempting to raise the seating capacity to the maximum. This relationship is shown in Table 11.

TABLE 11—COMPARISON OF SEATING AND STANDARD CAPACITIES BY BUILDINGS

Building	Seating Capacity	Standard Capacity	Difference	% Increase Possible in Seats
Administration	411	558	147	26.3
Main	1140	1336	196	14.7
Science	640	748	108	14.4
Pease Auditorium[1]	112	97	−15	−15.5
Gymnasium [2]	486	439	−47	−10.7
Total Normal Plant	2789	3178	389	12.2

Plant Use by Rooms

The use of the plant by periods is shown in per cents in Table 12. The total room use is 34.2%. This is secured by multiplying the number of rooms by the possible periods of use and comparing this with the actual room use by periods.

TABLE 12—PER CENT OF ROOM USE BY PERIODS

Building	Total Periods	Periods Used	Per cent
Administration	660	145	22.0
Main	1232	532	43.2
Science	924	217	23.5
Gymnasium	264	92	34.9
Pease Auditorium [1]	220	142	64.6
Total Normal Plant	3300	1128	34.2

[1]—Includes only instructional space.
[2]—Includes rooms 11 and 12.

Plant Use Based upon Attendance

Table 13 shows the relationship of attendance to standard capacity. The use of the normal plant is 18.7% of the standard capacity, leaving a margin of 31.3% for possible expansion, assuming that the present plant is perfectly co-ordinated with the program.

TABLE 13—PER CENT OF USE BY BUILDINGS ON THE BASIS OF ATTENDANCE

Building	Standard capacity for 1 week	Attendance for 1 week	Per cent use of standard capacity
Administration	24,552	2,727	11.1
Main	58,784	15,914	27.1
Science	32,912	3,535	10.7
Pease Auditorium[1]	4,268	1,376	32.2
Gymnasium	19,316	2,639	13.7
Total Normal Plant	139,832	26,191	18.7

The table from which these per cents were derived appears in the Appendix as Table VI.

The same data are shown in greater detail in per cents in Table 14, and are translated graphically in diagram 23.

A study of this table and the accompanying diagram shows that the actual use of the normal plant by periods reaches its highest point from 2:00 to 3:00 p. m. The use at this period is 28% of the standard capacity. The lowest use is from 4:00 p. m. to 5:00 p. m. when it falls to 5%. The plant is already in use eight hours daily.

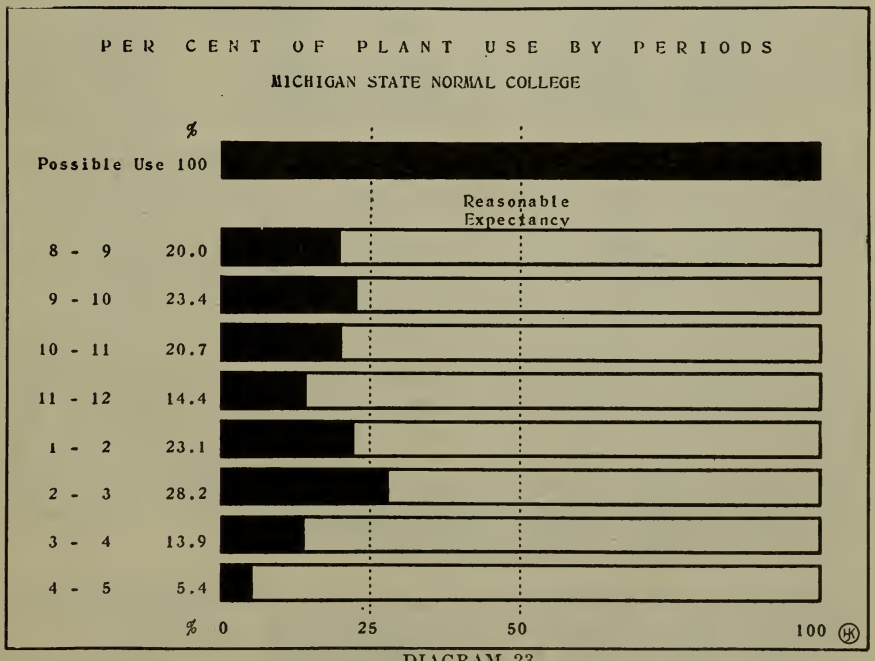

DIAGRAM 23

[1]—This figure includes only instruction rooms in Pease auditorium. The auditorium, main floor and studio capacities and attendance for these are excluded.

TABLE 14—USE OF BUILDINGS BY PERIODS IN PER CENTS[1]

Building	Total stand cap. for 1 wk.	Stand cap. for 1 a.m. Hour thru 6 days	Stand cap for 1 p.m. Hour thru 5 days	Per cent use by periods 6 days			5 days				Per cent use Morning	Per cent use Afternoon	Total per cent use
				8–9	9–10	10–11	11–12	1–2	2–3	3–4	4–5			
Administration....	24,552	3,348	2,790	14.9	17.3	15.6	4.5	8.0	19.5	7.5	.....	13.1	8.8	11.1
Main.....	58,784	8,016	6,680	24.7	37.5	30.8	20.6	34.6	45.8	16.3	5.3	28.4	25.5	27.1
Science.....	32,912	4,488	3,740	16.9	10.6	9.9	7.6	20.0	13.7	6.6	3.2	11.3	10.1	10.7
Pease Auditorium.	4,268	582	485	62.5	25.3	28.0	32.0	34.4	35.3	21.2	15.5	36.9	26.6	32.2
Gymnasium.....	19,316	2,634	2,195	8.1	9.8	13.1	16.1	10.1	9.0	25.7	18.8	11.8	15.9	13.7
Total Normal Plant.....	139,832	19,068	15,890	20.0	23.4	20.7	14.4	23.1	28.2	13.9	5.4	19.6	17.6	18.7

Training School

The training school at Ypsilanti consists of one elementary building erected specifically for that purpose in 1897 and the high school, located on the fourth floor of the main building, in rooms that are poorly adapted to this purpose from health, safety and educational standpoints.

The elementary school has a usable capacity at any period of 426. It shows a 70.5% use. These data are given in Table 15.

TABLE 15—USE OF BUILDINGS BY PERIODS

Building	Total stand cap. for 1 wk.	Stand cap. for 1 a.m. Hour thru 5 days	Stand cap. for 1 p.m. Hour thru 5 days	Total use of each period 5 days						Total a. m. attendance 1 wk.	Total p. m. attendance 1 wk.	Total attendance 1 wk.
				8–9	9–10	10–11	11–12	1–2	2–3			
Elementary Training School.....	10,650	2,130	2,130	1184	1576	1669	.....	1809	1266	4429	3075	7504
High Training School.....	12,320	1,720	1,720	491	555	291	481	336	417	1818	753	2571

Present Demands

Upon the basis of the 1920 class program the space requirements called for 201 classes to satisfy a registration of 1,295. Twenty-four classes require laboratories, 29 the gymnasium, 12 special rooms such as manual training, cooking, etc., and 10, studios. This distribution demands, upon an eight hour day, approximately 20 classrooms, 5 laboratories, 2 shops and 1 art studio. There are at present 60 classrooms and 15 laboratories and shops. This is merely stating in more specific terms of subject use the index of 34.2% for room use[2] and 18.7% for use on the basis of standard capacity[3] presented earlier.

This class distribution is shown in Table 16.

[1]—The table from which these per cents were derived appears in the Appendix as Table VI.
[2]—Table 12.
[3]—Table 13.

WEEKLY ROOM USE BY PERIODS

MICHIGAN STATE NORMAL COLLEGE

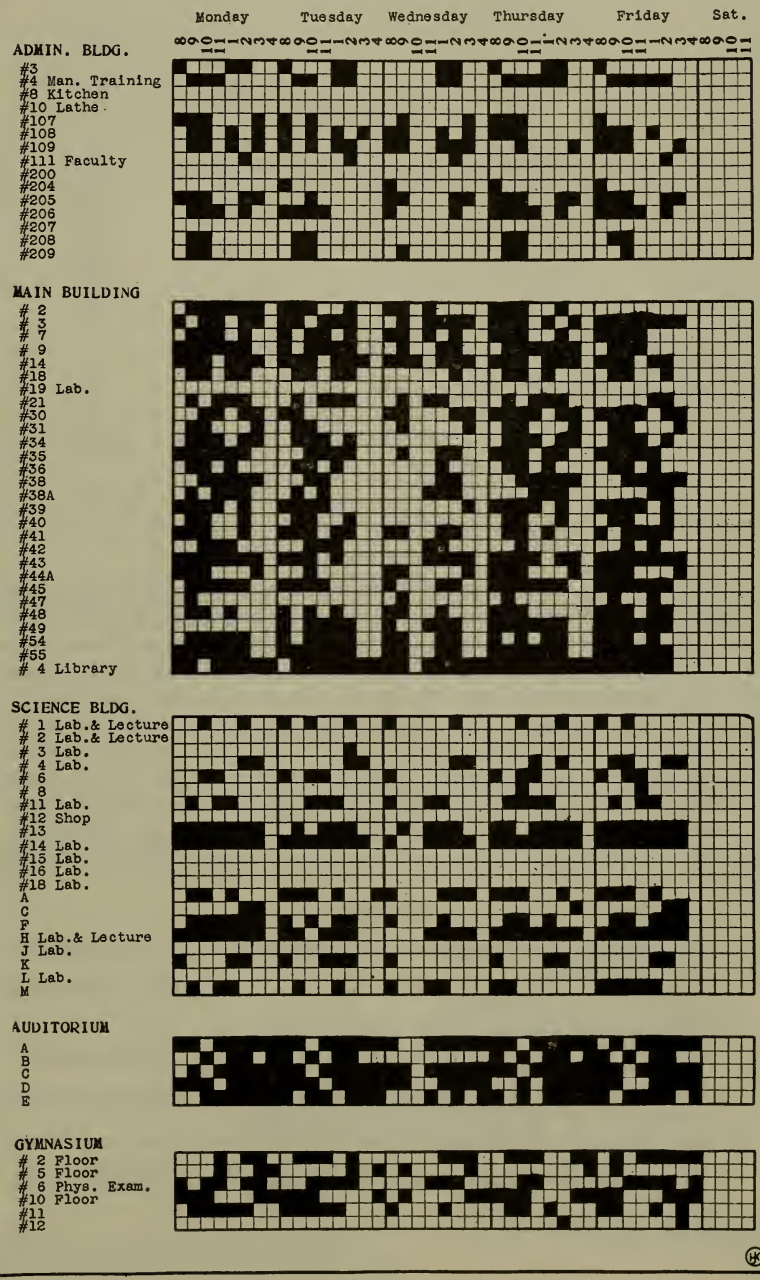

DIAGRAM 24

TABLE 16—DISTRIBUTION OF CLASSES BY SUBJECT
1920

Course of study	No. of classes	Membership	Per cent of membership.
Education	27	972	19.4
Health	29	1,079	21.5
Languages			
English	32	822	16.4
Foreign	18	272	5.4
Exact Science			
Mathematics	16	328	6.5
Agriculture	3	35	.7
Physics	8	81	1.6
Chemistry	5	79	1.6
Botany	3	68	1.4
Zoology	3	35	.7
Physiology	2	24	.5
Social Sciences	21	431	8.6
Vocational			
Commercial	.....	.....	.....
Home Economics	7	67	1.5
Mechanic Arts	5	46	.9
Fine Arts			
Music	14	272	5.4
Art	8	397	7.9
Totals	201	5,008	100.

Present Capacity

The present plant,[1] upon the basis of present use, has enough classroom, laboratory, studio and gymnasium capacity to care for a registration of 4,500. Vocational subject work has not developed to any degree at this school owing to former state policy. The present facilities are probably inadequate for future development in this field, but ample provision could be made for both when the central wing of the present building is replaced. The library has capacity for a 580 school registration.

As stated earlier in this chapter the central portion of the main building is a grave fire hazard and entirely inadequate for modern educational purposes. The rooms were designed to meet the needs of half a century ago. The ventilation is poor and the quarters in which the high school is housed are bad from every standpoint.

SUMMARY

1. **The campus is adequate in size, and plans for its development are excellent.**
2. **The plant has a usable capacity of 4,500 students upon the basis of a 44 hour week.**
3. **The room use of the normal plant is 34.2%.**
4. **The actual use, attendance in relation to standard capacity, is 18.7%.**
5. **The plant is fairly well adjusted to the present program, except in respect to vocational subject quarters.**
6. **The library facilities are adequate for a school of not more than 600 students.**
7. **The laboratory equipment is insufficient for the needs of the school.**

[1]—See Appendix, Table X.

Western State Normal School

Campus

This is the youngest of the teacher training schools. The campus consists of 46 acres which cost $78,000 to acquire, of which $43,000 was raised by popular subscription and $35,000 contributed by the state. The campus is beautifully located on rising ground, affording many opportunities for inspirational beautification. The method by which this property was acquired is shown in Table 17.

TABLE 17—PRESENT GROUNDS

Year acquired	Acreage	Cost[1]	By whom purchased[2]
1904	20	$24,000	City School District Kalamazoo
1912	14.40	$12,000	$5,000 State $7,000 Popular Subscription
1917	1.60	$14,500	$2,500 State $12,000 Popular Subscription
1916–1919	5	$17,500	State
1921	5	$10,000	State
Total	46	$78,000	

Physical Plant

The physical plant is fairly modern. The first building was erected in 1904-05, and the last was completed in 1921. The present plant consists of a three-unit building connected by corridors, containing administration quarters, library, gymnasium, recitation rooms, and the training school. A central heating plant serves this unit as well as the science and manual arts buildings. A library was allowed by the last legislature upon which construction has already been started. All of these buildings were erected by the state. This is shown in Table 18.

TABLE 18—PRESENT BUILDINGS

Year of building original building	Years of building additions	Type	Total cost[3]	Sq. Ft. classroom space	By whom built
1904–05		Adm. Bldg.	$60,000	15,423	State
	1907–08	Gymnasium	$60,000	7,847	State
	1907–08	Recitation	$15,000		State
	1909–10	Train. Sch.	$62,500	11,696	State
	1913–14	Heat. Plant	$40,000		State
	1913–14	Science Bldg.	$75,000	20,786	State
	1920–21	Manual Arts Bldg.	$100,000	11,523	State

[1]—Does not include cost of improvements.
[2]—State, Alumni, Faculty, citizens, bequest, etc.
[3]—These figures do not include built-in equipment.

Capacity

The normal plant has standard capacity at any single period of 1,747. Considering 50% of this as a reasonable expectancy of use the plant can care for 870 students at a single period. Upon the basis of a 44 hour week the usable capacity would be 2,600 students, if the use of classrooms by the high school were eliminated and the plant were properly balanced. This school had a fall term registration of 1,294 students.

The normal plant as in operation in 1921 has a total floor space of 67,099 square feet, of which 55,579 or 82.8% is devoted to instruction. Of this 29,379 square feet are used part of the time by the high school classes. The distribution of floor space is shown in figures in Table 19 and in per cents in Table 20.

TABLE 19—DISTRIBUTION OF FLOOR SPACE IN SQUARE FEET

Building	Total floor space sq. ft.	Instruction floor space sq. ft.	Administration floor space sq. ft.	Assembly floor space sq. ft.	Operation floor space sq. ft.	Toilet etc. floor space sq. ft.
Administration	20,304	15,423	1,700	2,533		648
Science	25,121	20,786	3,635			700
Manual Arts	13,027	11,523	1,082		22	400
Gymnasium	8,647	7,847	800			
Total Normal Plant	67,099	55,579	7,217	2,533	22	1,748

TABLE 20—PER CENT DISTRIBUTION OF FLOOR SPACE

Building	Total per cent	Instruction per cent	Administration per cent	Assembly per cent	Operation per cent	Toilet etc. per cent
Administration	100.0	76.0	8.4	12.4		3.2
Science	100.0	82.7	14.5			2.8
Manual Arts	100.0	88.5	8.3		.2	3.1
Gymnasium	100.0	90.8	9.2			
Total Normal Plant	100.0	82.8	10.7	3.8	.1	2.6

Seating Capacity

In both the administration group and science buildings the seating capacity is in excess of the standard capacity. In the total normal plant this amounts to 249 seats. Standard capacity was used in this study eliminating this factor of overload in seats. The relation between standard capacity and seats is shown in Table 21.

TABLE 21—SEATING CAPACITY AND STANDARD CAPACITY BY BUILDINGS

Building	Seating capacity	Standard capacity	Difference
Administration	829	673	−156
Science	827	734	− 93
Manual Arts	116	116	0
Gymnasium	224	224	0
Total	1,996	1,747	−249

Room Use

The room use by buildings on the basis of periods is shown in Table 22. This college has no high training and practice school building and has overcome to some extent this difficulty by using at certain periods part of the normal plant. In determining room use therefore this use of the plant by two different units must be given careful consideration.

In Table 22a it has been assumed that the entire plant should be devoted to the use for which it was designed. Upon this assumption the room use of the entire normal plant by the college is 41.1% of the possible use on a 44 period basis. In Table 22b the use of portions of the buildings by the high school is shown to be 32.6%.

In Table 22c the combined room use by both college and high school is 47.4% of the total possible use.

TABLE 22—PER CENT OF ROOM USE BY PERIODS BY BUILDINGS

Building	Total Periods	Periods used	Per cent use
(a) Use by school			
Administration	880	410	46.6
Science	1,056	444	42.1
Manual Arts	352	80	22.7
Gymnasium	44	25	56.8
Total Normal Plant	2,332	959	41.1
(b) Use by high school			
Administration	360	135	37.5
Science	210	60	28.6
Manual Arts	90	20	22.2
Gymnasium	30	10	33.3
Total High School	690	225	32.6
(c) Combined use by school and high school			
Administration	880	502	57.1
Science	1,056	484	45.8
Manual Arts	352	90	25.6
Gymnasium	44	29	65.9
Total Normal and High Use	2,332	1,105	47.4

Plant Use Based upon Attendance

In Table 23 is shown the per cent of actual use of the college plant by buildings, based upon standard capacity in relation to attendance. This amounts to 34.1%, leaving a possible margin of 15.9% for expansion, if a high school building were provided. The administration group and science buildings show the best use. The manual arts building has a comparatively low use.

WEEKLY ROOM USE BY PERIODS

WESTERN STATE NORMAL SCHOOL

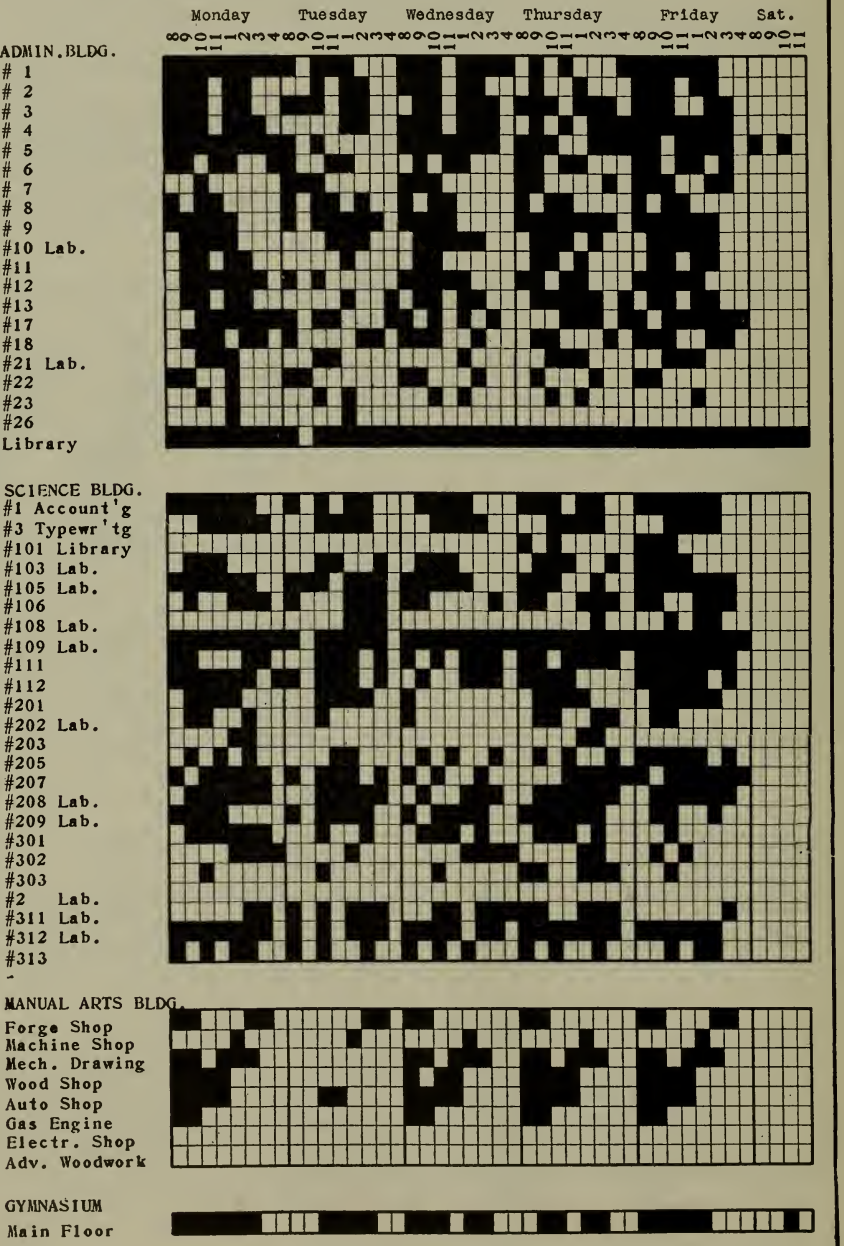

DIAGRAM 25

TABLE 23—PER CENT OF USE BY BUILDINGS UPON THE BASIS OF ATTENDANCE[1]

Building	Standard capacity for 1 week	Attendance for 1 week	Per cent use of standard capacity
Administration	29,612	12,738	43.0
Science	32,296	10,687	33 1
Manual Arts	5,104	1,087	21.3
Gymnasium	9,856	1,701	17.3
Total Normal Plant	76,868	26,213	34.1

Period Use

Table 24 shows the period use by buildings in per cents. Table 24 is translated graphically in diagram 26.

A study of diagram 26 shows that the total use of the buildings is 34.1% but that for four periods during the day the use is more than 40% of the standard capacity. The highest use, 45%, is between 1:00 p.m. and 2:00 p.m. and the lowest, 6%, is between 4:00 p.m. and 5:00 p.m. This is the best use of any of the state normal plants. Table 24 and diagram 26 follow.

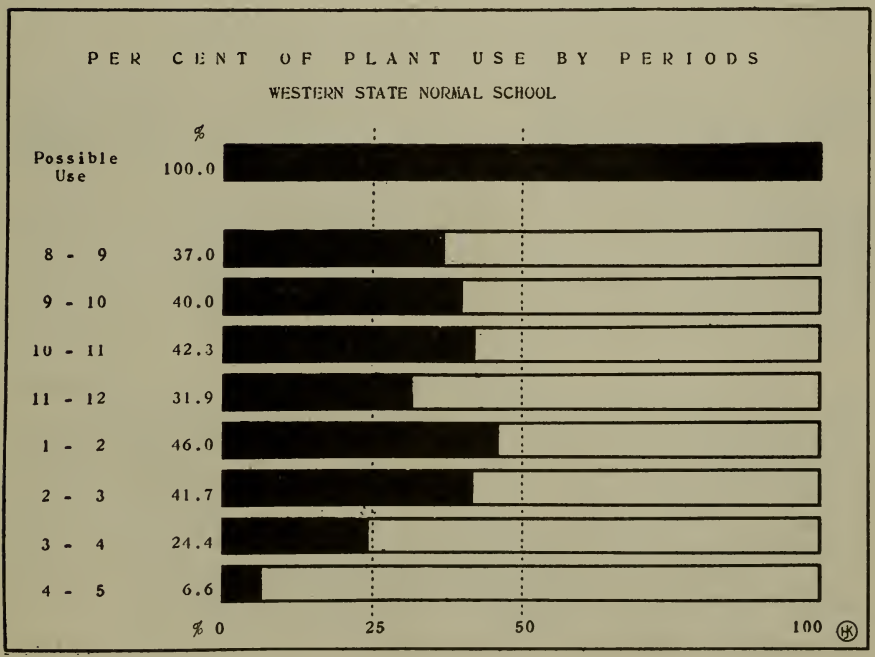

DIAGRAM 26

[1]—The table from which these per cents were derived appears in the appendix as Table VII.

TABLE 24—USE OF BUILDINGS BY PERIODS IN PER CENTS

Building	Total stand. cap. for 1 wk.	Stand. cap. for 1 a.m. hour thru 6 days	Stand. cap. for 1 p.m. hour thru 5 days	Per cent use by periods 6 days 8–9	9–10	10–11	11–12	5 days 1–2	2–3	3–4	4–5	Per cent use morning	Per cent use afternoon	Total per cent use
Administration	29,612	4,038	3,365	50.0	46.9	59.5	34.0	60.5	46.0	20.1	14.7	47.6	37.6	43.0
Science	32,296	4,404	3,670	31.4	36.9	36.7	36.1	36.0	38.6	25.2	1.9	35.3	30.5	33.1
Manual Arts	5,104	966	580	43.5	32.0	11.2	22.7	23.6	25.0	7.4	.....	27.4	14.0	21.3
Gymnasium	9,856	1,344	1,120	13.1	34.0	25.1	16.8	23.0	22.1	.....	.....	22.3	11.3	17.3
Total	76,868	10,482	8,735	37.0	40.0	42.3	31.9	46.0	41.7	24.4	6.6	37.8	29.7	34.1

The table from which these results were derived appears in the Appendix as Table VII.

Training School

The elementary training school was built in 1909. It constitutes, together with certain rooms in the main building used for a training high school, the practice teaching plant. The elementary school has a standard capacity at any given period of 631. It is operated seven hours every day and shows a 77% use of standard capacity.

These data appear in Table 25.

TABLE 25—USE OF BUILDINGS BY PERIODS

Building	Total stand. cap. for 1 wk.	Stand cap. for 1 a.m. Hour thru 5 days	Stand cap. for 1 p.m. Hour thru 5 days	Total use of each period 5 days 8–9	9–10	10–11	11–12	12–1	1–2	2–3	Total fore-noon at-tend-ance	Total after-noon at-tend-ance	Total at-tend-ance
Elementary Training School	12,975	2,595	2,595	1163	1551	1831	1253	1258	1539	1401	5768	4198	9996
High Training School	15,360	2,560	2,560	1070	975	820	940	.....	770	655	3805	1425	5230

Present Demands

The 1920-21 demand of this school with a 1,023 registration was for 179 classes. There were 113 classes reciting four times a week and 14 reciting five times.[1]

The distribution of these classes by subject is 37 in health, 14 in services requiring laboratories, 27 in vocational subjects and 8 requiring studios. The space requirements for this program, upon a 44 hour week, are one differentiated shop, one gymnasium, four laboratories, one studio and 29 classrooms. The present plant has 15 laboratories, 8 shops, a gymnasium, and 28 classrooms. There are, however, a number of basement rooms in use and these should be replaced as soon as possible. The distribution of classes by subject is shown in Table 26.

1—See Appendix, Table XX.

TABLE 26—DISTRIBUTION OF CLASSES BY SUBJECT

Course of study	No. of classes	Membership	Per cent of membership.
Education	20	814	19.5
Health	37	635	15.2
Languages			
English	16	474	11.4
Foreign	18	237	5.7
Library Methods	3	197	4.7
Exact Sciences			
Mathematics	6	118	2.8
Physics	3	44	1.1
Chemistry	3	69	1.7
Agriculture	1	9	.2
Nature Study	1	21	.5
Biology	6	180	4.3
Social Sciences	20	626	15.0
Vocational Education			
Commercial	11	207	5.0
Home Economics	8	156	3.8
Mechanic Arts	8	118	2.8
Fine Arts			
Music	10	107	2.6
Art	8	156	3.7
Total	179	4,168	100.0

Present Capacity

Upon the present use, this school[1] has a laboratory capacity sufficient for a general registration of 3,600; shop capacity for a general registration of more than 6,000; a classroom capacity for a general registration of 2,200 and a library capacity for a school of 700. From these data it is apparent that the present plant is not properly balanced. There is excess capacity in both science and manual arts buildings. The joint use of the main building by both college and high school makes necessary the use of certain undesirable basement rooms. To secure sufficient instructional space it has been necessary to eliminate consultation quarters for the faculty, thereby hampering the consultation and individual work of the teaching staff. The college also feels the absence of an auditorium and high training school.

SUMMARY

1. **The campus is excellently located and consists of 46 acres.**
2. **The buildings are comparatively modern in structure and design.**
3. **The library facilities are inadequate but this need will be met when the new building is completed.**
4. **The usable capacity is 2,600 students upon the basis of a 44 hour week, but this must be scaled down to 2,200 owing to the relation of classrooms to laboratories.**
5. **The room use by the college is 41.1% and the combined room use, college and high school, is 47.4% of the possible use.**
6. **The use of the normal plant by the college is 34.1%. The combined use of the normal plant by the college and high school is 40.9%.**
7. **The plant is not well adjusted to the program. There is excess space in both science and manual arts buildings.**
8. **The college lacks an auditorium.**
9. **The college lacks a high training and practice school.**

1—See Appendix, Table XI.

Central Michigan Normal School

Campus

The Central Michigan Normal School campus now consists of 25.8 acres of which more than 15 acres were donated by the city of Mt. Pleasant and the athletic association of the college. The campus is situated of flat ground and is still capable of necessary expansion at reasonable cost. Table 27 shows how the present holdings were acquired.

TABLE 27—PRESENT GROUNDS

Year Acquired	Acreage	Cost	By whom purchased
1895	8		Donated by City of Mt. Pleasant
1903	10.8	$8,000	Legislature and City of Mt. Pleasant
1915	7	$2,300	Athletic Association

Physical Plant

The physical plant consists of four buildings and a heating plant. The original building and the wings of the administration building were erected by the citizens and the state. The training school, gymnasium, science building and heating plant were all erected by the state.

The first of these buildings was erected in 1892 and with certain interior physical changes would serve excellently for many years to come. Certain undesirable basement rooms are used in this building and these should be eliminated as soon as possible. There is no auditorium and no adequate library. Table 28 carries these data:

TABLE 28—PRESENT BUILDINGS

Year of building original building	Years of building additions	Type	Total cost	Square feet in class-rooms	By whom built
1892	1899–1901	Administration	$75,000	18,934	Citizens & State
1901–2		Tr. School	35,000	10,922	State
1908		Gymnasium	50,000	10,128	State
1914–15		Science	100,000	16,732	State
1900		Heating	25,000		State

Capacity

The normal plant has a standard capacity at any single period of 1,707. Considering 50% of this as a reasonable expectancy of use the usable capacity at any period would be 800 students. On the basis of a 44 hour week the usable capacity of the plant would be approximately 2,400 students. The fall 1921 term registration was 634 students.

There is a total of 68,742 square feet of floor space, 45,794 or 66.6% of which is available for instruction. These data are shown in figures in Table 29 and in per cents in Table 30.

TABLE 29—DISTRIBUTION OF FLOOR SPACE IN SQUARE FEET

Building	Total floor space square feet	Instruction floor space square feet	Administration floor space square feet	Assembly floor space square feet	Toilets etc. floor space square feet
Main	31,733	18,934	5,565	4,578	2,656
Science	23,335	16,732	6,162		441
Gymnasium	13,674	10,128	1,779		1,767
Total	68,742	45,794	13,506	4,578	4,864

TABLE 30—PER CENT DISTRIBUTION OF FLOOR SPACE

Building	Total per cent	Instruction per cent	Administration per cent	Assembly per cent	Toilets etc. per cent
Main	100	59.7	17.5	14.4	8.4
Science	100	71.7	26.4		1.9
Gymnasium	100	74.1	13.0		12.9
Total	100	66.6	19.7	6.7	7.1

Seating Capacity

The relationship of seats to standard capacity shows a fairly close agreement. The standard capacity is only 118 higher than the actual number of seats. The classrooms in the gymnasium building are overseated by 15. This appears in Table 31.

TABLE 31—SEATING AND STANDARD CAPACITY BY BUILDINGS

Building	Seating capacity	Standard capacity	Difference
Main	685	752	67
Science	543	609	66
Gymnasium	361	346	−15
Total Normal Plant	1,589	1,707	118

Room Use

Table 32 shows the room use of buildings by periods upon the basis of a 44 hour week. The main building shows the highest use (41.3%) while the total for the plant is 34.8%.

TABLE 32—PER CENT OF ROOM USE BY PERIODS BY BUILDINGS

Building	Total periods	Periods used	Per cent used
Main	836	345	41.3
Science	792	228	28.8
Gymnasium	176	54	30.7
Total Normal Plant	1,804	627	34.8

WEEKLY ROOM USE BY PERIODS

CENTRAL STATE NORMAL SCHOOL

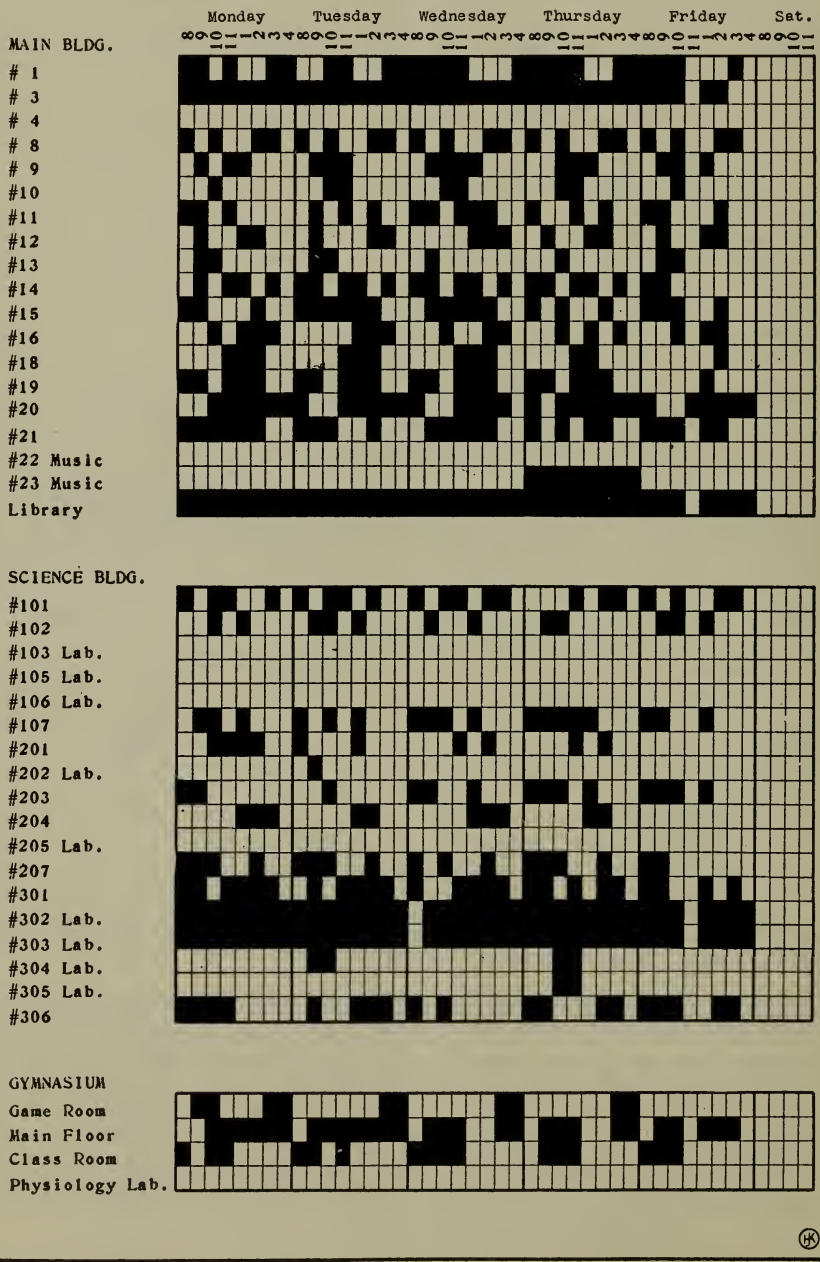

DIAGRAM 27

Plant Use Based upon Attendance

Table 33 gives the use by buildings on the basis of actual attendance. The total use ranges from 13.8% for the gymnasium to 27.4% for the main building and 21.2% for the entire normal plant.

TABLE 33—PER CENT OF USE BY BUILDINGS ON THE BASIS OF ATTENDANCE

Building	Standard capacity for 1 week	Attendance for 1 week	Per cent use
Main[1]	33,088	9,048	27.4
Science	26,796	4,740	17.7
Gymnasium	15,224	2,098	13.8
Total Normal Plant	75,108	15,886	21.2

The data from which these per cents were derived appear in the Appendix as Table VIII.

Table 34 shows the use of the buildings by periods in per cents. They are shown graphically in diagram 28.

A study of diagram 28 shows that the average use of the plant on the basis of standard capacity is 21.2%, leaving a margin of 28.8% for future growth if the plant was perfectly adjusted to the program.

The period use for the week reaches its highest point, 27%, at 2:00 p.m. and its lowest, 10%, at 4:00 p.m. These data follow.

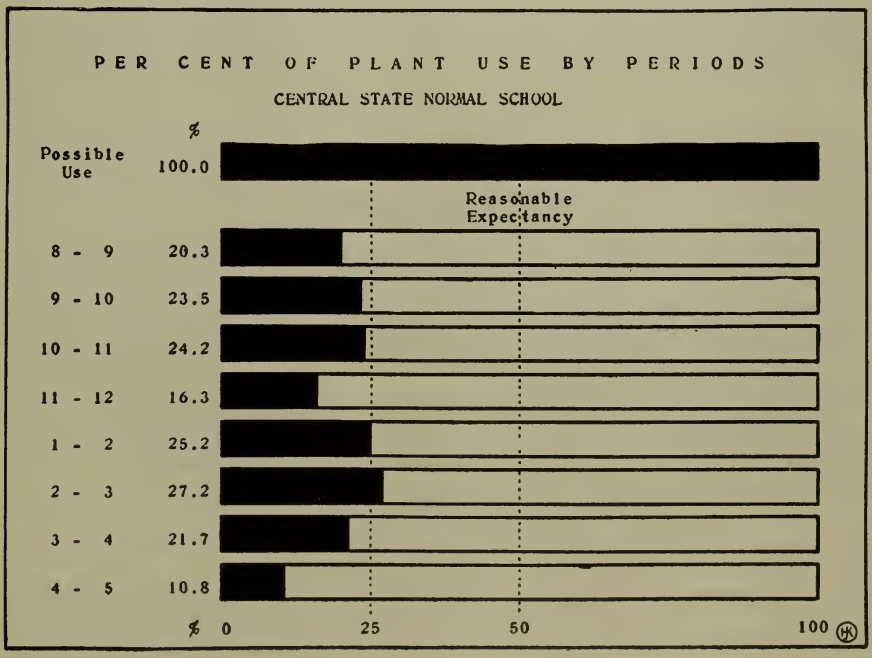

DIAGRAM 28

1—Assembly room in main building not included.

TABLE 34—USE OF BUILDINGS BY PERIODS IN PER CENTS

Building	Total stand. cap. for 1 wk.	Stand. cap. for 1 a.m. Hour thru 6 days	Stand. cap. for 1 p.m. Hour thru 5 days	Per cent use								Per cent use morning	Per cent use afternoon	Total per cent use
				8–9	9–10	10–11	11–12	1–2	2–3	3–4	4–5			
Main	33,088	4,512	3,760	25.7	32.7	23.6	28.1	36.0	31.9	26.6	14.1	27.5	27.2	27.4
Science	26,796	3,654	3,045	22.7	15.6	22.0	6.8	25.0	29.6	19.0	1.6	16.8	18.8	17.7
Gymnasium	15,224	2,076	1,730	4.4	17.2	29.5	7.6	2.3	13.0	15.6	19.9	14.7	12.7	13.8
Total	75,108	10,242	8,535	20.3	23.5	24.2	16.3	25.2	27.2	21.7	10.8	21.1	21.2	21.2

The data from which these per cents were derived appear in the Appendix as Table VIII.

Training School

The elementary training school was built in 1907. It has a unit capacity of 360 children at any given period. It shows a use of 56.3% of standard capacity. This use is shown in Table 35.

TABLE 35—USE OF BUILDINGS BY PERIODS

Building	Total stand. cap. for 1 wk.	Stand. cap. for 1 a.m. Hour thru 5 days	Stand. cap. for 1 p.m. Hour thru 5 days	Total use of each periods 5 days					Total forenoon attendance 1 wk.	Total afternoon attendance 1 wk.	Total attendance
				8–9	9–10	10–11	1–2	2–3			
Elementary Training School	9,000	1,800	1,800	1038	1203	1098	927	801	3339	1728	5067

Present Demands

The present program calls for 84 classes, only six of which recite less than four times a week. This total includes 11 in vocational subjects, six in sciences requiring laboratories and six in fine arts requiring a studio. Upon the basis of a 44 hour week the requirements for this program would be seven regular classrooms, four vocational laboratories, three laboratories and one educational laboratory because their science classes are scattered as to subject, one gymnasium and one studio. The present plant provides for 25 classrooms, 9 laboratories and a gymnasium. There is sufficient capacity in the gymnasium unit and the science building to meet the requirement of a 3,000 school registration. The library capacity is sufficient for a 450 registration.

The classroom capacity is sufficient for a registration of approximately 2,000 students. The usable capacity on the basis of the present program is therefore 2,000, with much excess space in both science and gymnasium units.

The data on distribution of classes by subject appear in Table 36.

TABLE 36—DISTRIBUTION OF CLASSES BY SUBJECT

Course of study	No. of classes	Membership	Per cent of membership.
Education	10	209	12.1
Health	11	305	17.7
Languages			
English	14	340	19.7
Foreign	4	32	1.9
Exact Sciences			
Mathematics	6	136	7.9
Agriculture	4	29	1.7
Physics	1	16[1]	.9
Chemistry	1	21[1]	1.2
Qual. Anal.	1	11	.6
Zoology	1	13	.7
Heredity	1	7	.4
Nature Study	1	20	1.2
Social Sciences	7	185	10.7
Vocational Education			
Commercial	6	89	5.3
Home Economics	3	24[2]	1.4
Mechanic Arts	2	19	1.1
Fine Arts			
Music	5	166	9.6
Art	6	101	5.9
Total	84	1,723	100.0

A study of these data show that the different parts of the normal plant[3] are not well balanced. The laboratories are out of proportion to classroom space. There is a large amount of excess space in both gymnasium and science buildings but the library facilities are not adequate and faculty consultation rooms are not provided. There is no auditorium. With certain minor adjustments the present plant could easily care for many more students.

SUMMARY

1. **The Central Michigan Normal School campus consists of 25.8 acres.**
2. **Certain desirable adjoining land may be acquired now at reasonable cost.**
3. **The physical plant consists of four buildings, all in fairly good condition.**
4. **The usable capacity of the entire normal plant upon a 44 hour week basis is approximately 2,400 students, but on the adjustment of classrooms to laboratories this usable capacity must be reduced to 2,000.**
5. **The library space of the college is inadequate.**
6. **The room use is 34.8% of the possible capacity.**
7. **The plant use is 21.2% of the standard capacity.**

1—Three periods—One of 50 min.—two of 55 min.
2—Class of 4 double periods.
3—See Appendix, Table XII.

Northern State Normal School

Campus

The campus consists of 20.85 acres of which only .85 acres, costing $1,250.00, was purchased by the state. The balance was the gift of Messrs. Ayer and Longyear. The grounds are well situated overlooking Lake Superior. Certain adjoining parcels of land might be acquired now at a reasonable price. The acquisition value of this land is shown in Table 37.

TABLE 37—PRESENT GROUNDS

Year acquired	Acreage	Cost	By whom purchased
1900	20	28,000	Gift from Ayer & Longyear
1918	1 lot .85	1,250	State

Physical Plant

The first building was erected in 1899 and was burned in 1905. The annex and new south building were erected in 1905 and 1907 and since that time other buildings have been erected by the state until at the present time the plant consists of a series of three buildings, connected by corridors, and a detached boiler house. The south wing is used as a training school, the main building and north wing for college purposes.

The double window hermetically sealed ventilating system used at this plant should be modified at an early date. It may be highly desirable during the winter months but in late spring, during the summer session and in early fall, this system should be changed to permit fresh air ventilation. The development of the physical plant appears in Table 38.

TABLE 38—PRESENT BUILDINGS

Year of building original bldg.	Type	Total cost	Square feet classroom space	By whom built
1899 Original South Bldg.		25,000	Burned Dec. 1905	State
New South Bldg. 1907	Training Sch. & classrooms	50,472.15	14,971	State
Annex South Bldg. 1905		14,000.00		State
North Bldg. 1902	Classrooms	35,950.00	9,489	State
Annex North Bldg. 1907	Laboratories	15,000.00		State
Main Bldg. 1915	Adminis. & classrooms	157,876.68	16,293	State
Boiler House 1908		30,100.00		State

Capacity

This college has standard capacity of 1,156 at any period. Taking 50% of this as a reasonable expectancy of use, the usable capacity would be 530 students or, on the basis of a 44 hour week, the school, if properly balanced, could accommodate 1,590 students. The 1921 fall term registration was 490 students.

The total floor area is 17,761 square feet, of which 12,369 or 69.6% can be classified as instruction space. These data are shown in numbers in Table 39 and in per cents in Table 40.

TABLE 39—DISTRIBUTION OF FLOOR SPACE IN SQUARE FEET

Building	Total floor space square feet	Instruction floor space square feet	Administration floor space square feet	Assembly floor space square feet	Operation floor space square feet	Toilets etc. floor space square feet
Administration	32,699	16,293	5,372	7,960	1,189	1,885
North (Peter White Science)	14,220	9,489	3,893			838
Gymnasium...	6,794	6,794				
Total.....	53,713	32,576	9,265	7,960	1,189	2,723

TABLE 40—PER CENT DISTRIBUTION OF FLOOR SPACE

Building	Total floor space square feet	Instruction floor space square feet	Administration floor space square feet	Assembly floor space square feet	Operation floor space square feet	Toilets etc. floor space square feet
Administration	100	49.8	16.4	3.6	24.3	5.8
North (Peter White Science)	100	66.7	27.4			5.9
Gymnasium...	100	100.0				
Total.....	100	60.7	17.3	2.2	14.8	5.1

Seating Capacity

There is a difference of 101 between standard capacity and seats. This represents a fairly close relationship. These data are shown in Table 41.

TABLE 41—SEATING CAPACITY AND STANDARD CAPACITY

Building	Seating capacity	Standard capacity	Difference
Administration.....	546	648	102
North (Peter White Science).....	315	314	−1
Gymnasium.....	194	194	0
Total.....	1,055	1,156	101

Room Use

The use of rooms upon the 44 hour basis is 52% of the possible use. This is well distributed among all units. The lowest use is 51% in the administration building and the highest is 66% in the gymnasium. This is shown in Table 42.

WEEKLY ROOM USE BY PERIODS

NORTHERN STATE NORMAL SCHOOL

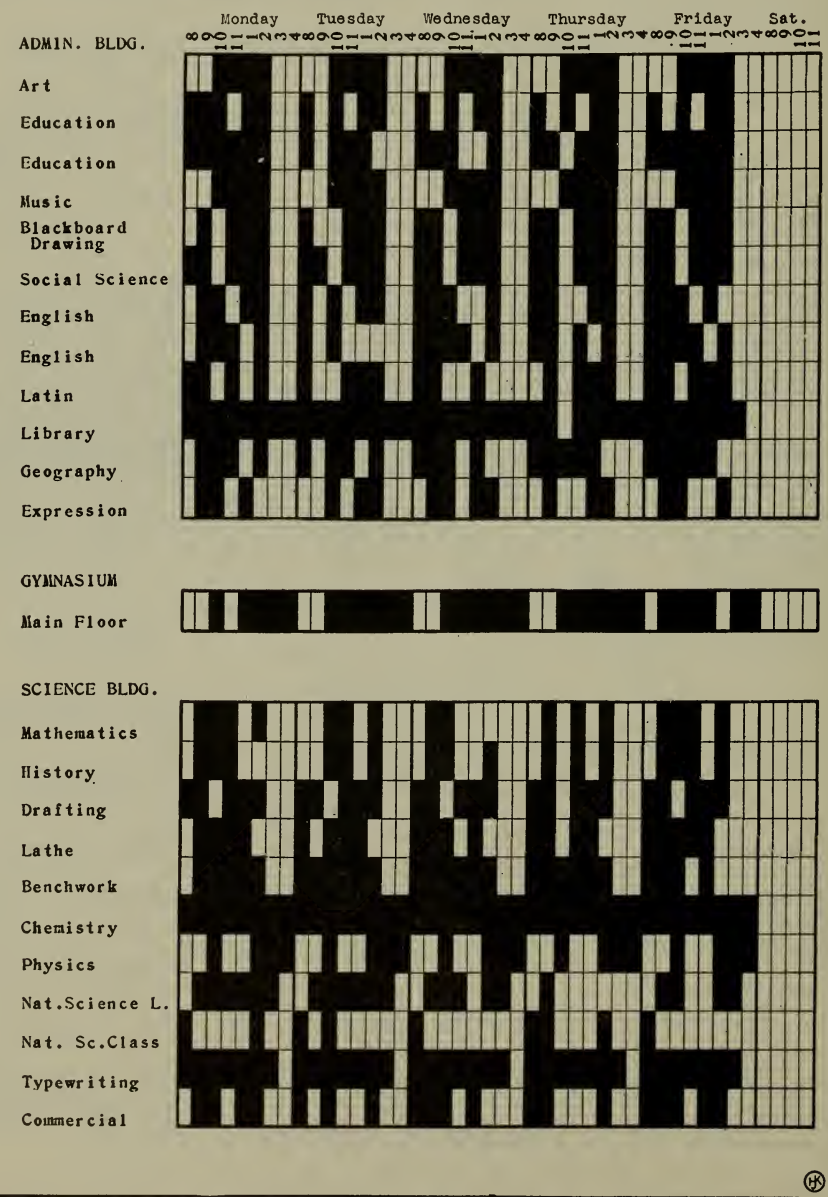

DIAGRAM 29

TABLE 42—PER CENT ROOM USE

Building	Total periods	Periods used	Per cent use
Administration	528	270	51.1
North (Peter White Science)	484	250	51.7
Gymnasium	44	29	66.0
Total	1,056	549	52.0

Plant Use Based upon Attendance

Table 43 shows the data on use of buildings on the basis of standard capacity and actual attendance. The total use of the plant for one week was 24.7% of the standard capacity, leaving a possible margin of growth, if the plant were properly balanced, of 25.3%.

TABLE 43—PER CENT OF USE OF BUILDINGS ON THE BASIS OF ATTENDANCE

Building	Total standard capacity for 1 week	Total attendance for 1 week	Per cent use[1]
Administration	28,512	7,498	26.3
North (Peter White Science)	13,816	3,798	27.5
Gymnasium	8,536	1,271	14.9
Total Normal Plant	50,864	12,567	24.7

Table 44 shows the detailed use of the building by periods for one week in per cents. These data appear graphically in diagram 30.

A study of diagram 30 shows that the maximum use of 27% occurs between 2:00 p.m. and 3:00 p.m. with the lowest use, 10% between 4:00 p.m. and 5:00 p.m. These data follow.

TABLE 44—USE OF BUILDINGS BY PERIODS IN PER CENTS[1]

Building	Total stand. cap. for 1 wk.	Stand. cap. for 1 a. m. hour thru 6 days	Stand. cap. for 1 p. m. hour thru 5 days	Per cent use								Per cent use morning	Per cent use afternoon	Total per cent use
				8–9	9–10	10–11	11–12	1–2	2–3	3–4	4–5			
Administration	28,512	3,888	3,240	26.9	27.5	33.0	29.8	42.1	37.8	8.0	2.9	29.3	22.7	26.3
North (Peter White Science)	13,816	1,884	1,570	35.3	32.4	32.5	28.8	23.2	42.4	17.5	4.0	32.3	21.8	27.5
Gymnasium	8,536	1,164	970	.....	11.2	13.8	13.3	21.9	15.9	23.7	23.7	9.6	21.3	14.9
Total	50,864	6,936	5,780	24.7	26.1	29.6	26.8	33.6	35.4	13.2	6.7	26.8	22.2	24.7

[1]—The data from which this table was derived appear in the Appendix as Table IX.

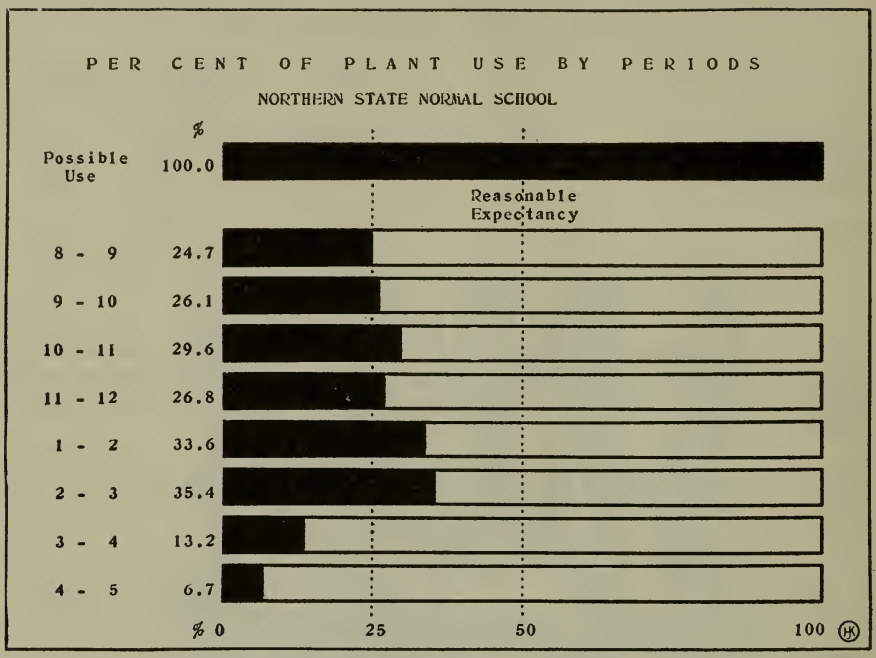

DIAGRAM 30

Training School

The elementary training school was built in 1907 and has a unit standard capacity of 319 at any given period. It shows a use of 84.4% on the basis of standard capacity. There is no training high school building at this college. These data appear in Table 45.

TABLE 45—USE OF BUILDINGS BY PERIODS

Building	Total stand. cap. for 1 wk.	Stand cap. for 1 a.m. hour thru 5 days	Stand. cap. for 1 p.m. hour thru 5 days	Total use of each periods 5 days						Total fore-noon at-ten-dance	Total after-noon at-ten-dance	Total at-ten-dance
				8–9	9–10	10–11	11–12	1–2	2–3			
Elementary Training School.....	7,975	1,595	1,595	.....	1411	1442	1318	1235	1326	4171	2561	6732
High Training School.....	3,390	565	565	249	179	205	126	240	241	759	481	1240

Present Demands

The 1920-21 demand for classes, under the present program, with a 366 registration is 63.[1] Of these 7 are in health, 6 in sciences requiring laboratories, 8 in vocational subjects, and 4 in art requiring a studio. The room requirements for these classes are: one gymnasium, four laboratories, one educational laboratory, a shop, a home economics laboratory, two commercial laboratories and six classrooms. The present plant contains: one studio, one gymnasium, two laboratories, home

1—See Appendix, Table XXII.

economics, drafting and shop rooms, and 13 classrooms. The classrooms have a usable capacity for a registration of 1,000, gymnasium and laboratory requirements for a school of several thousand, and library facilities for a school of 485, the present registration.

The data showing the distribution of subjects by classes appear in Table 46.

TABLE 46—DISTRIBUTION OF CLASSES BY SUBJECT

Course of study	No. of classes	Membership	Per cent of membership
Education	10	246	14.2
Health	7	245	14.1
Languages			
English	7	171	9.9
Foreign	3	31	1.8
Library Training	1	168	9.7
Exact Science			
Mathematics	7	95	5.5
Chemistry	1	18[1]	1.0
Physics	1	14[1]	.8
Elementary Science	1	29	1.7
Physiology	1	50	2.9
Nature Study	1	27	1.5
Biology	1	6[1]	.4
Social Sciences	5	117	6.8
Vocational Education			
Commercial	4	57	3.3
Home Economics	2	24[1]	1.4
Mechanic Arts	2	29[1]	1.6
Fine Arts			
Music	5	316	18.2
Art	4	90	5.2
Total	63	1,733	100.0

As in the other schools this plant is not well balanced with the present needs While the usable capacity of the plant as a whole is 1,590 students,[2] this must be scaled down to 1,280 upon close analysis of available classrooms. The library is adequate for present enrollment but does not permit of growth.

SUMMARY

1. **The campus consists of 20.85 acres.**
2. **The physical plant is modern and in good condition, except that the ventilating system might profitably be modified.**
3. **The college plant has a usable capacity of 531 at any period, or a usable capacity of 1,590 students on a 44 hour week, but is so balanced that the usable capacity must be scaled down to 1,000 students upon the present program.**
4. **The room use for one week is 52% of the capacity.**
5. **The plant use in terms of standard capacity is 24.7%.**

1—Double periods.
2—See Appendix, Table XIII.

General Conclusions Regarding the Normal School Plants

1. The library facilities at three of the schools are quite inadequate to properly carry out the college program. The schools are fairly well supplied with books, although additions to these collections should continue to be made annually. The chief difficulty is cramped quarters.

2. It is reasonable to assume that state college buildings should be used 44 hours each week and that 80% of the available rooms be in use at any one time. The usable capacity should be at least 50% of the standard capacity.

3. Quarters should be provided where the faculty members may prepare their work and meet students for personal consultation.

4. Upon the basis of a 44 hour week all of the colleges show a large usable capacity, enough, if the plants were properly balanced, to care for student growth for many years to come. Some of the plants are not well adjusted, however, and certain changes must be made if they are expected to function at a greater capacity. These period and total usable capacities are shown in Table 47.

TABLE 47—USABLE CAPACITIES

College	Usable period capacity	Usable capacity 44 hr. wk.	Usable capacity on basis of present program	Present membership
Michigan State Normal	1,500	4,500	4,500	1,527
Western State Normal	870	2,600	2,200	1,294
Central Michigan Normal	800	2,400	2,000	634
Northern State Normal	530	1,590	1,000	490
Total	3,700	11,090	9,700	3,945

5. A comparison of the actual use of the school plant by rooms and by standard capacity shows a much higher room use in every case. This indicates that the rooms are not used to full capacity. This comparison is shown in Table 48.

TABLE 48—COMPARISON OF USE

College	Per cent of room use	Per cent use standard capacity	Per cent difference
Michigan State Normal	34.2	18.7	13.5
Western State Normal	41.1	34.1	7.0
Central Michigan Normal	34.8	21.2	13.6
Northern State Normal	52.0	24.7	27.3

6. The Western and Central schools lack auditorium facilities both for assembly and for the enrichment of the college social activities.

7. The colleges are caring for all demands upon them at the present time. The fact that there is greater usable capacity than is needed is no reflection upon any administration. This is a chronic condition in practically all colleges. The state may be satisfied that this excess building was done at a time when building costs were much cheaper than at present, and with slight changes these schools will all be able to care for greatly increased numbers of students.

Chapter IX—The Organization of Classes

The study of the distribution of classes by size and by subject was made for two successive years. There was comparatively little difference in general distribution so the fall term of 1920-21 was chosen for comparative purposes.[1]

Lower Quartile

The range of size of classes for all subjects in the lower quartile is from nine at Central to 14 at Michigan State. Health and vocational classes show the poorest distribution. In the smaller schools the difficulty of securing large groups with their diverse curriculum probably plays a part in bringing these classes down in size. The distribution of classes by size in the freshman and sophomore years in the College of Literature, Science and the Arts at the University is shown for comparative purposes. The suggested number for the lower percentile is 20. Michigan State is now fairly close to this subject distribution in health, exact sciences and fine arts. The other schools fall somewhat below. The University of Michigan total is higher than the suggested distribution for the normal schools. This appears in Table 49.

TABLE 49—THE SIZE OF CLASSES 1920-21 (FIRST QUARTILE)

	Mich. State	Western State	Central Michigan	Northern State	U. of Mich. 1st 2 years	Suggested
Education	15	14	9	.....	[2]	20
Health	28	9	12	17	82	30
Languages	15	13	9	10	20	20
Exact Sciences	13	10	7	10	23	15
Social Sciences	11	18	10	20	34	20
Vocational	5	10	7	10	.....	15
Fine Arts	15	10	6	9	30	15
Total for College	14	12	9	10	22	20

Median

The Median size of classes is from 14 at Central to 24 at Michigan State. Ypsilanti and Western State show the best general distribution although Western is quite low in health, vocational subjects and fine arts. The suggested median is 30. This is now equalled in education by two schools and in languages the agreement is also fairly close. The greatest variations between the suggested standard and present practice occur in health, vocational and fine arts classes. The suggested distribution is only one higher than the University of Michigan at present. This is shown in Table 50.

[1]—For detailed tables by schools see Appendix, Tables XIX–XXII and LII
[2]—Not a freshman or sophomore subject at the University of Michigan.

TABLE 50—MEDIAN SIZE OF CLASSES 1920-21

	Mich. State	Western State	Central State	Northern State	U. of Mich. 1st 2 years	Suggested
Education	37	30	19	.....	[1]	30
Health	37	19	15	36	82	60
Languages	23	24	11	18	24	25
Exact Sciences	20	19	16	17	29	25
Social Sciences	18	28	12	30	37	30
Vocational	12	15	11	14	.....	20
Fine Arts	24	15	14	17	30	25
Total for College	24	20	14	19	29	30

Third Quartile

The upper quartile shows a good distribution at both Michigan and Western State. The range is from 24 at Central to 36 at Michigan State. The suggested standard for the third quartile is 35. This is exceeded by Michigan State and is one higher than Western and Northern State. The schools are in fair agreement in education but in health there is a wide variation between practice and suggestion. In languages three schools exceed the suggested size of 30 but in exact sciences they are slightly lower. In social sciences there is fair agreement and only one school exceeds in vocational classes. All of the schools, except Michigan State are lower in fine arts. The university distribution is two points higher than the one suggested for the normal schools. This appears in Table 51.

TABLE 51—THIRD QUARTILE SIZE OF CLASSES 1920-21

	Mich. State	Western State	Central State	Northern State	U. of Mich. 1st 2 years	Suggested
Education	39	38	33	.....	[1]	35
Health	39	36	21	39	233	90
Languages	30	33	18	35	29	30
Exact Sciences	25	25	23	28	39	30
Social Sciences	34	38	16	35	39	40
Vocational	18	22	20	31	.....	25
Fine Arts	32	22	21	21	30	30
Total for College	36	34	24	34	37	35

General Comparison

Michigan State shows the best general distribution of classes by size and Central the lowest. Michigan State has a lower percentile of 14 while the suggested number is 20. The actual median is 24 and the suggested median 30. The actual 75 percentile is 36 and the suggested is 35. This is shown in Table 52 and diagram 31.

1—Not a freshman or sophomore subject at the University of Michigan.

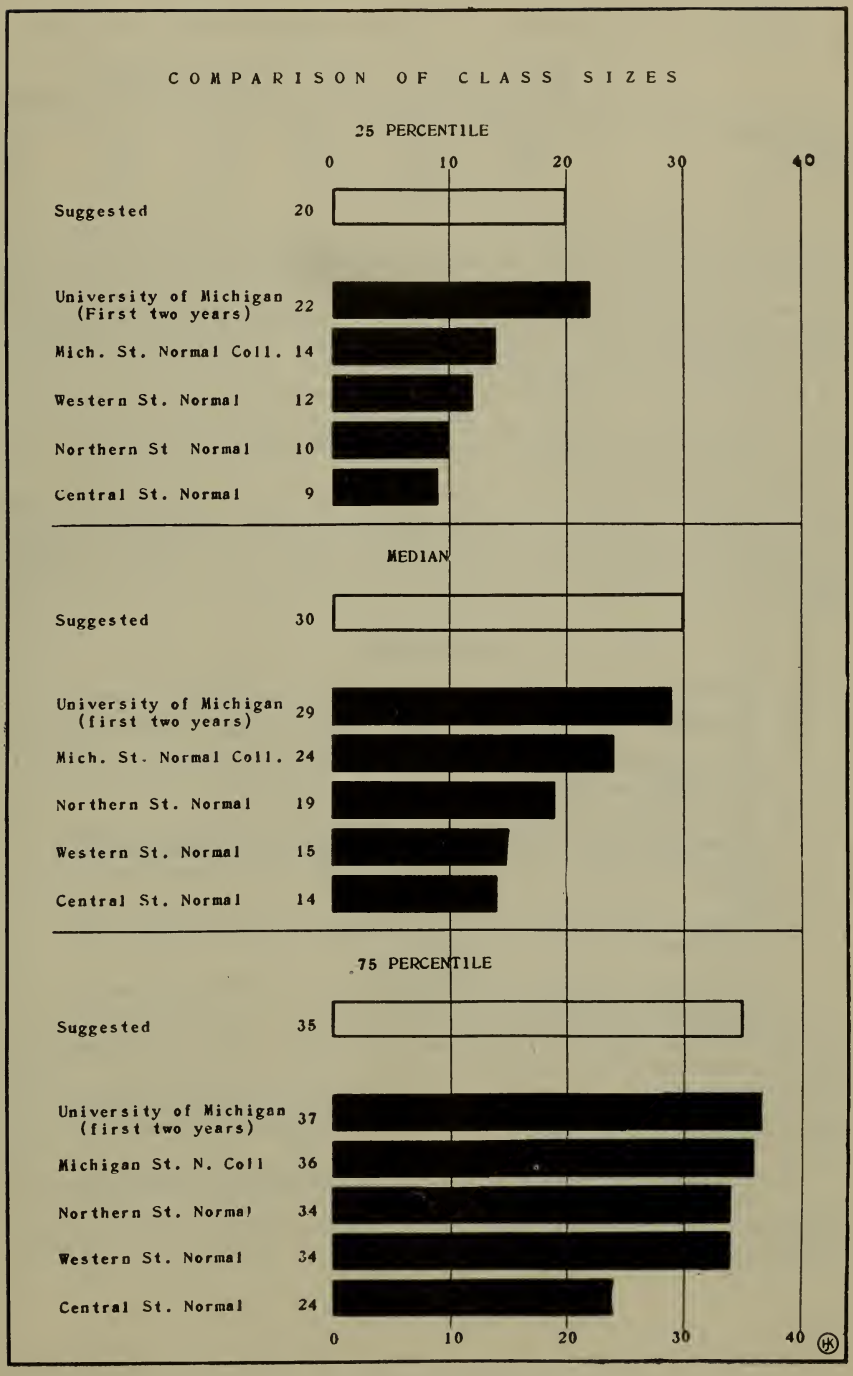
COMPARISON OF CLASS SIZES
25 PERCENTILE
0
10
20
30
40
Suggested 20
University of Michigan (First two years) 22
Mich. St. Normal Coll. 14
Western St. Normal 12
Northern St Normal 10
Central St. Normal 9
MEDIAN
Suggested 30
University of Michigan (first two years) 29
Mich. St. Normal Coll. 24
Northern St. Normal 19
Western St. Normal 15
Central St. Normal 14
75 PERCENTILE
Suggested 35
University of Michigan (first two years) 37
Michigan St. N. Coll 36
Northern St. Normal 34
Western St. Normal 34
Central St. Normal 24
0
10
20
30
40

DIAGRAM 31

TABLE 52—COMPARISON OF CLASS DISTRIBUTION BY SIZE

	Mich. State	Western State	Central State	Northern State	U. of Mich. 1st 2 years	Suggested[1]
25 Percentile	14	12	9	10	22	20
Median	24	15	14	19	29	30
75 Percentile	36	34	24	34	37	35

The question of size of classes is largely a matter of careful administration. It is doubtful whether real educational reasons exist that would justify classes much smaller than 15 or 20. Experiments that have been carried on so far appear to indicate that there is little correlation between size of classes and educational results as expressed in promotion and failure.

It is possible that in smaller schools the number taking special group subjects is limited and that to carry on all these activities it is necessary to have small classes. A lower range of 20 would still give enough leeway so this situation could be cared for when necessary.

Careful attention to class organization will tend to secure better use of the college plant and better distribution of the teaching load among the faculty members. The work of class organization should be in the hands of one member of the administrative staff, preferably the registrar, in order to secure the most effective results.

SUMMARY

1. **There is a wide variation in size of classes at the four schools.**
2. **Michigan State generally shows the best class distribution.**
3. **The suggested distribution is: lower quartile, 20; median, 30; and upper quartile, 35.**
4. **The suggested norms for size of classes is reasonable. It is now exceeded at the University of Michigan in the freshman and sophomore years in the College of Literature, Science and the Arts.**
5. **Several of the schools are now in accord with the suggested distribution in certain subjects.**
6. **The largest number of small classes appears to be in the health, vocational and fine arts divisions.**
7. **There are no vital educational reasons that make small classes necessary.**
8. **Better use of the plant and better distribution of the teaching load can be secured by careful administration of class organization.**
9. **The work of organizing the class program should be centralized in one person, preferably the registrar.**

1—See Appendix, Table LXI.

Chapter X—Personnel of the Michigan State Normal School Faculties

Preparation

The faculties at the four normal schools totaled 270 at the time of the survey. With one exception all have had more than high school training. Of the total only 15.1% have professional preparation less than that represented by four years of college work or its equivalent, or at least eight years beyond the eight grade.

This distribution is fairly regular at all four schools. The greater portion of the faculties show from eight to nine years of training beyond the eight grade, the equivalent of a bachelor's or master's degree. This is shown in Table 53.

TABLE 53——PREPARATION OF NORMAL FACULTIES

Years beyond 8th grade	1	2	3	4	5	6	7	8	9	10	11	12	13
Michigan State	....	....	....	....	....	4	4	23	28	12	10	3	1
Western State	....	....	....	....	1	7	9	26	20	6	6	3	....
Central Mich.	....	....	....	1	....	3	5	9	9	6	2	5	....
Northern State	....	....	....	....	....	4	3	14	6	3	4	1	2
Totals	....	....	....	1	1	18	21	72	63	27	22	12	3
Per cent	....	....	....	.4	.4	7.5	8.7	30.0	26.3	11.3	9.2	5.0	1.2

Degrees

The degrees held by the members of the several faculties may be classified into 12 groups. Some of these represent two and three years of preparation, some are honorary, and others are standard academic degrees. Ninety-five per cent hold bachelor degrees in either arts, science or philosophy, while 34% have in addition either the master degree or the doctorate. In the Missouri normal schools 71% hold bachelor's degrees.[1] Fifteen members of Michigan normal school faculties hold honorary degrees. This is shown in Table 54.

1—Carnegie Foundation, Bulletin 14, 1920 p. 420. The Professional Preparation of Teachers for American Public Schools.

TABLE 54—DEGREES OF NORMAL SCHOOL FACULTIES

	B.Pd.[1]	B.L.	Ph.B.	B.S.	B.A.	M.Di.	Ph.M.	M.S.	M.A.	Ph.D.	M.Pd.	LL.D.
Michigan State	17[2]	3	8	23	37	1	3	4	29	8	6	2
Western State	....	2	5	11	33	....	....	3	17	6	1	1
Central Mich.	2	1	4	7	11	....	....	2	7	1	4	....
Northern State	....	2	1	5	11	2	....	2	11	1	1	....
Total	19	8	18	46	92	3	3	11	64	16	12	3

Sixty-two per cent[3] of the total four year or graduate degrees have been received from Class 1 collegiate institutions.[4] This group includes such schools as Harvard, Columbia, University of Michigan and state universities. This compares favorably with the Missouri state normal schools[5] where the total degrees from Class 1 institutions are 60% of the whole.

Service

The total teaching experience of the several faculties varies greatly. At Ypsilanti the median is 20 years and at Central it is 19 years, while Northern is 14 years and Western is 13 years. This appears in the following table.

TABLE 55—TOTAL SERVICE IN YEARS

	25 Percentile	Median	75 Percentile
Michigan State[6]	10	20	29
Western State[7]	8	13	20
Central Mich.[8]	9	19	26
Northern State[9]	10	14	24

1—Three years of work.
2—Thirteen of this number also possess the bachelor's degree.
3—For detailed report see Appendix, Table XIV.
4—Dr. K. C. Babcock's Classification of Educational Institutions for the Bureau of Education in 1911.
5—Carnegie Foundation, Bulletin 14, 1920, p. 420.—The Professional Preparation of Teachers for American Public Schools.
6—See Appendix, Tables XXIII and XXIV.
7—See Appendix, Tables XXV and XXVI.
8—See Appendix, Tables XXVII and XXVIII.
9—See Appendix, Tables XXIX and XXX.

Service at Colleges

A study of the service in their present positions shows a great variation from the above table.

Not more than half of this experience has been acquired at the school where they now teach. The median service at Michigan State is 10 years, seven years at Northern and five years at the other two schools. The lower percentile shows a maximum of four years service at Northern, three at Michigan State and Western and one at Central. Considering the fact that professorial tenure is practically life tenure this indicates that the faculty turnover is greater than would be generally expected. The total service at the several schools appears in the following table.

TABLE 56—TOTAL SERVICE AT SCHOOLS

	Age of school	25 Percentile	Median	75 Percentile
Michigan State	70	3	10	21
Western State	18	3	5	7
Central Mich	27	1	5	17
Northern State	22	4	7	12

Age

Michigan State shows the highest age distribution. This is natural at the oldest of the schools. The lower percentile ranges between 31 and 35 years; the median between 37 and 45 years and the upper percentile between 44 and 55 years. Chronological age, generally speaking, is not necessarily a good index of mental age, but in this instance merely points out the fact that the faculty members are still in their physical prime. These age distributions appear in Table 57.

TABLE 57—AGE DISTRIBUTION OF NORMAL FACULTIES

	25 Percentile	Median	75 Percentile
Michigan State	34	45	55
Western State	31	37	44
Central Mich	33	42	49
Northern State	35	42	49

Resignations

A study of the resignations since 1912-13 shows a rather high turnover for college faculties. These were not due to old age or lack of ability but on account of salary conditions. Of more than 200 resignations 50% had two years experience or less. Of these, 54 cannot be classified by age but the age range of the 48 was from 23 to 45 years. Seventy-five per cent had four years or less of experience at these normal schools and the range of ages for this group was from 23 to 45 years with one at 52 years.

About half of those resigning were less than 32 years old and three-quarters were less than 39 years.

This condition was true at all four schools and is reflected in the service tables shown on preceding pages. This is generally an indication of unsatisfactory salary conditions existing at these schools. If this movement continues it will result in the draining of the younger members upon whom the future of these institutions rests. The resignation by service and age appears in Table 58.

TABLE 58—RESIGNATIONS BY EXPERIENCE AND AGE

	YEARS OF SERVICE															
Age	1	2	3	4	5	6	7	8	9	10	11	12	13	18	29	Total
23	1	1	1													3
24	2															2
25		1														1
26	2	1														3
27	2		3													5
28	6			1	1	1										9
29	3	1	1		1											6
30	2		1					1								4
31	1	1			1	1										4
32	2		2	4	1											9
33	2	2	3	2			1									10
34	1	1	1			1										4
35	1	1	1													3
36	1			1	3											5
37		2														2
38	2		2	1		1		1								7
39	1	1		1				1								4
40							1			1						2
41	2		1					1	1							5
42								1	1	1	1					4
43	1	1														2
44			1				1		1							3
45	1							1	1	1			1			5
46							1									1
52			1													1
No Age given	37	17	12	7	3	4	5	3	3			1	1	2	1	96
Totals	72	30	30	17	10	8	9	9	7	3	1	1	2	2	1	202
Per cents	35.6	14.9	14.8	8.4	4.9	3.9	4.5	4.5	3.5	1.5	.5	.5	1.	1.	.5	100.

Family Status

There are 16.6 per cent of the male members of the faculties who are unmarried. Of the 85 married the median age at marriage was 27, which is several years above the average for professional people. The median size of family is four children. Twenty-five per cent give inadequate salaries as the reason for late or deferred marriage, 15.9% name professional reasons, 11.1% dependent relatives and 47.6% did not disclose their reasons. These data may be found in the following table.

TABLE 59—FAMILY STATUS OF NORMAL FACULTIES

	Unmarried teachers		Married teachers		No. children in family											
	Present age		Age when married		Men							Women				
Age Group	Men	Women	Men	Women	1	2	3	4	5	6	7	1	2	3	4	5
19–20	.....	1	1	.....	1	..	..	..	..	..	..	..	..	..	..	..
21–25	2	12	31	4	7	6	3	3	3	1	..	1	1	..	..	..
26–30	4	29	43	2	6	7	5	4	2	1	2	1	1	..	..	..
31–35	4	33	8	.....	3	3	..	1	..	..	..	..	..	..	..	..
36–40	4	16	2	.....	..	2	..	..	..	..	..	..	..	..	..	..
41–45	1	26	.....	.....	..	..	..	..	..	..	..	..	..	..	..	..
46–50	.....	12	.....	.....	..	..	..	..	..	..	..	..	..	..	..	..
51–55	2	14	.....	.....	..	..	..	..	..	..	..	..	..	..	..	..
56–60	.....	4	.....	.....	..	..	..	..	..	..	..	..	..	..	..	..
61–65	.....	4	.....	.....	..	..	..	..	..	..	..	..	..	..	..	..
Totals	17	151	85	6	17	18	8	8	5	2	2	2	2	..	..	..

Chapter XI—Teaching Load

The teaching load at the several schools varies as to the median number of hours weekly but the lower and upper percentiles are the same. In making this calculation all part-time instructors with less than four hours of work were not considered. Twenty-five per cent of the staff carry eight hours or less of teaching per week. Fifty per cent carry from eight to 16 recitation hours and 25 per cent carry 16 or more recitation hours. The median is 13 hours at Central, 14 hours at Northern State, and 12 hours at the other two schools. This is shown in the following table:

TABLE 60—NORMAL SCHOOL TEACHING LOAD

	25 Percentile	Median	75 Percentile
Michigan State	8	12	16
Western State	8	12	16
Central Michigan	8	13	16
Northern State	8	14	16
Total	8	12	16

The question naturally arises as to what is a reasonable teaching load, for a normal school teacher. Assuming that the training and ability of the normal school instructor should be equivalent to that of members of a university faculty and that the quality of instruction should be of university calibre it is hard to see how the teaching load can be much higher than 16 hours weekly. To further elaborate this point we may quote from the Carnegie Foundation Survey of the Missouri state normal schools:[1]

> "There is certainly no single or arbitrary rule by which a reasonable standard of amount of work for normal school instructors may be determined. It would seem to be closely involved with two main factors: the capacity of the instructors and the quality of work desired. No one would propose to turn a high school staff into a college faculty by reducing the weekly load from twenty-five periods to twelve. The average high school teacher would scarcely know what to do with the time; he has a generalized training with or without special emphasis in one or two fields; he has a distinctly routine attitude toward instruction, and to him the physical burden of twenty-five periods is not excessive. In some high schools, where specialized graduate work is now required of teachers, instruction tends to assume a fresher, more intense, and vital form; here, therefore, appears also the tendency to shorten hours to fit the better type of teacher, not because he can compel it, but because he has the ability and training to make his four hours a day worth another's five. Similarly the good college instructor is expected, through complete familiarity with his subject, to give his material an original and vigorous treatment. This he cannot usually do save in a single field or portion thereof, and he must live with his sources in their best forms to the point of saturation. To such an instructor more than three periods of instruction per day is a drain which his study time fails properly to replenish. He must keep abreast of the development of his subject, must continually revise his courses, and must himself do constructive study. For the sake of his product it is usually well worth while to give him time for all of this.
>
> "Assuming a faculty trained to high grade work, the question of schedule becomes a question of the quality of work desired. There is an impression

[1]—The Professional Preparation of Teachers for American Public Schools, 1920. Bulletin 14, pp. 109-110.

that a heavy schedule is merely a burden to the teacher; that he continues somehow to produce in larger amount the best of which he is capable. This is of course a mistake. A school demanding that a teacher give twenty-five periods of collegiate instruction per week simply gets that teacher's energy and effort spread out thinly over twenty-five periods instead of concentrated into fifteen, and each class suffers accordingly. It is difficult to make the average school board or layman understand this; to them an instructor teaching thirty periods is obviously twice as valuable as the one teaching half that time. To any one who knows what college work is, however, it is apparent that the institution that professes to do college work on such a basis is seriously deceiving both itself and others.

"It is probable, however, that a standard college schedule should not be applied abruptly to the normal schools, except for such teachers as are already trained college workers. There is on the faculty of each school a considerable number of teachers of the high school type; men and women lacking special training and bred by long use to the old style normal school program. Some of these are good teachers who might yet acquire adequate preparation, or who would at least be acceptable instructors in secondary subjects. On the other hand, in so far as the schools attempt college work, the present little group of well-prepared teachers should at once be enlarged and placed on a strictly collegiate basis in respect to hours and subjects. A training school for teachers, of all institutions, ought to make its own standards in these respects unimpeachable."

The second consideration is how the teaching load at the state normal schools compares with the state university. A study of the teaching load in the first two years of the College of Literature, Science and the Arts shows a distribution of 10, 12, and 15 hours for the percentiles and median. This may be explained by the fact that the professorial teaching load is small to make allowance for research, and the huge rhetoric department has a standard teaching load of nine hours. As rhetoric is a required freshman subject the greater portion of this faculty falls into the first two years distribution and tends to reduce the load. The comparison of the first two years in the College of Literature, Science and the Arts of the university with the normal schools follows:

	25 Percentile	Median	75 Percentile
Normal Schools.....	8	12	16
University of Michigan.....	10	12	15
	—	—	—
	–2	0	1

The normal school load is two lower in the first quartile and one higher in the third quartile. The university teaching load is lower in the upper end because of the time required for research. This same practice has been followed at the normal schools. The question that may be asked is: Is research a normal school function? The best answer may be found in a quotation from the Carnegie Foundation Survey of Missouri normal schools.[1] This covers the subject of research as follows:

"There is a feeling on the part of some that the function of a training-school staff should not involve research, but should consist exclusively in inculcating known truth, and that consequently a fuller teaching program is permissible. The premise back of this attitude is partially true, but the conclusion is wholly mistaken. Technical research in education requiring minute and prolonged experimentation is doubtless out of place in a training school under present conditions, although this may be said only with the proviso that these schools be kept in intimate touch with such work even to the extent of limited participation. It is not too much to

expect that some one serious undertaking of a research nature should be under way at every normal school all of the time. But the heart of the job in an institution for preparing teachers is unquestionably the teaching itself. The foremost feature of a successful school of this type, the lever on which it must chiefly depend to accomplish its results, is the ability of each and every instructor to present continuously the performance of the finished artist in teaching as teaching. It is contact of this sort that soonest and most deeply fastens fine ideals of teaching in the minds of young students. This ability in a teacher is not the ability required to prepare books or to conduct general investigations. It presupposes rather a constant and sympathetic intimacy with the kind of instruction for which the teacher is preparing others; it develops a more and more sensitive insight into the needs of students and the ways of winning access to them; and, finally, it commands an inexhaustible fund of human interest and personal force that by common consent justifies the name 'teacher' in the greater sense. All of this means devoted thought and a lavish expenditure of power. To teach teachers is of necessity a work lightly undertaken by many, since a multitude must undertake it; but to teach teachers well is the most exacting and responsible as it is perhaps the most inspiring business in the academic world. While, therefore, much more must be demanded of the normal school instructor than he usually gives today, he should in turn be protected, even more than his colleague in the university, from requirements that check his growth and stifle his best expression."[1]

The conclusion reached is that research is essential and should be recognized as such but that the primary object of training teachers must never be lost sight of. Where a specific piece of research is to be accomplished allowance should be made but this should be limited in character and in amount.

The second factor in teaching load is the actual amount of instruction given in terms of student hours.[2] Although the teaching load in periods may be equal yet the distribution of students in these classes may result in great inequality in load. In computing the teaching load in student hours the 50 minute session was reckoned as a full hour. Twenty-five per cent of the teachers carry 114 or fewer student hours. The range for half of the teachers is from 114 to 305 hours, with a median load of 190. Northern State shows the best distribution and Western State the lowest.

There are no comparative data so a reasonable expectancy of student hour load has been set up, based on the suggested class size distribution of 20-30-35 without increasing the actual number of class hours. The base used is the present class hour distribution. This would make the lower percentile 200, the median 340 and the upper percentile 460.

If this were applied reasonably to the state schools it would result in a saving of teachers without actually increasing the number of class hours or diminishing the teaching effectiveness. These data appear in the following table:

TABLE 61—STUDENT HOURS PER TEACHER PER WEEK

	Michigan	Western	Central	Northern	Average for all schools	Reasonable expectancy
25 Percentile..	146	92	112	152	114	200
Median.....	238	176	164	250	190	340
75 Percentile..	306	276	304	340	305	460

1—The Professional Preparation of Teachers for American Public Schools, 1920. Bulletin 14, pp. 110-111.

2—Student hours may be defined as the products of the number of students taught multiplied by the number of clock hours taught.

Chapter XII—Costs

Educational costs are complex. Their interpretation involves a knowledge of so many intimate administrative details, of policies, organization, character of the school plant, salary conditions, interpretation of results, etc., that broadly speaking, their analysis must be confined largely to educational administrative officers. Costs are not hard and fast criteria of educational effectiveness. They are merely indices for the use of the executive. The basic point of policy in collegiate administration should be not how cheap but how well. Economy must be interpreted in the light of quality. The character of service should be the primary consideration and cost the secondary consideration in any educational institution. In presenting the cost data from the state normal schools it is advisable to bear this in mind and not attempt to draw erroneous conclusions from an ascending curve.

The general basis of cost estimation is the per capita. This has so many distinct weaknesses as to make it almost valueless. All students are not in school for the same period and consequently the actual per capita cost would not be the cost that is generally obtained by dividing total expenses by the largest regular registration, and prorating the summer registration to fit into the whole. If it is assumed that the entire enrollment spends the same amount of time in the college, a comparison between two schools on this basis might be misleading for the average student load at one school might be 16 hours and at another 12 hours weekly. A school with a high mortality would show a lower cost than a school where all of the students actually stayed throughout the year. There can be no meaningful comparison on a per capita basis between different schools. There are too many variables.

For the purpose of this study the costs have been reckoned on an instruction hour basis, which may be briefly described as 60 minutes of instruction for one student. Records of this character were not available at the several schools so the average student load covering several terms was taken as a norm and applied to all schools on the basis of membership. It is possible that the actual number of instruction hours may have been slightly above or below this assumed figure at certain schools but as the standard was applied to all schools alike and the variation in hours is due only to differences in membership it may be safely assumed that the results are a fair index of each school.

Budget Distribution

The maintenance fund was divided into five groups that correspond with the general procedure in educational accounting. These are administration, instruction, auxiliary agencies, operation, and maintenance of buildings. The average proportion of the maintenance fund spent for administration varies from 9.6% at Michigan State to 16.6% at Central. The average is 12.7%. The smaller the school the higher the proportionate administrative cost. The range at Central from 1910-11 to the present time is 14.5% to 18.7%.

Instruction varies from 67.3% at Central Normal to 71.6% at Northern State. Michigan State has devoted as high as 74% to instruction in one year with an average of 70.8%. The high point at Western State was 75.6% in 1916-17 and the highest point at Northern State was 74.7% in 1920-21.

Operation of buildings ranges from 13.3% at Northern State to 15.4% at Michigan. The high point at Michigan State was 23.2% in 1917-18 which was equalled in 1918-19 by Central with a 23.3% expenditure for this purpose. The other two schools did not exceed 15%.

Maintenance costs vary from 4% at Michigan State to 1.3% at Central. The reason for this high proportion at Michigan State, 6.4% in 1920-21, is due largely to the presence of some very old buildings whose maintenance cost is high. There is no available data on the balancing of college and university budgets, so a detailed study of the data presented by the normal schools was necessary to formulate a standard of budget division. The requirements for the several divisions were worked on the basis of this study and conditions that might obtain under an ideal situation. The following tentative standard was developed.

1. Not more than 15% of the maintenance budget should be devoted to administration.
2. The amount devoted to instructional purposes should approach 70% of the whole.
3. Auxiliary agencies, including the operation of dormitories, commons and health service should not exceed 2.5%.
4. The amount devoted to the operation of the college plant should not exceed 10% of the entire budget.
5. Maintenance of the school plant should not be in excess of 2.5% of the budget.

Using this tentative standard as a measure, Central Normal is the only school spending more than 15% for administration. This is due somewhat to size. The other schools are not spending enough on administration and their staffs are too small for the proper service that is required by these schools.

All of the schools except Central are at the standard set for instruction.

Operation of buildings is proportionately too high at all of the schools. Michigan and Western State are above the mean for maintenance of buildings. These data are shown in the following table.

TABLE 62—AVERAGE PER CENT DISTRIBUTION 1910 TO 1921 FOUR STATE NORMAL SCHOOLS[1]

Function	Michigan	Western	Central	Northern	Average per cent	Suggested distribution
Administration	9.6	11.4	16.6	13.3	12.7	15.0
Instruction....	70.8	71.1	67.3	71.6	70.2	70.0
Auxiliary Agencies....	.2	.6	.....	.3	.3	2.5
Operation of buildings....	15.4	13.7	14.8	13.3	14.3	10.0
Maintenance of buildings.	4.0	3.2	1.3	1.5	2.5	2.5
Total.....	100.0	100.0	100.0	100.0	100.0	100.0

[1]—These detailed tables by individual schools appear in the appendix as Tables XXXI to XLIII.

Growth in Expenditures

Maintenance expenditures at the state normal schools have increased from $389,264 in 1910-11 to $1,062,656 in 1920-21, which is an increase of $673,392, or 173%.

During this period (1910-11 to 1921-22) the enrollment in the regular sessions increased 32.6% and that in summer sessions 102.4%.

The variation between expenditures increase and growth is due to increased costs generally and salary increases specifically. These will be considered in detail in a later chapter.

These data appear in the following table and diagram:

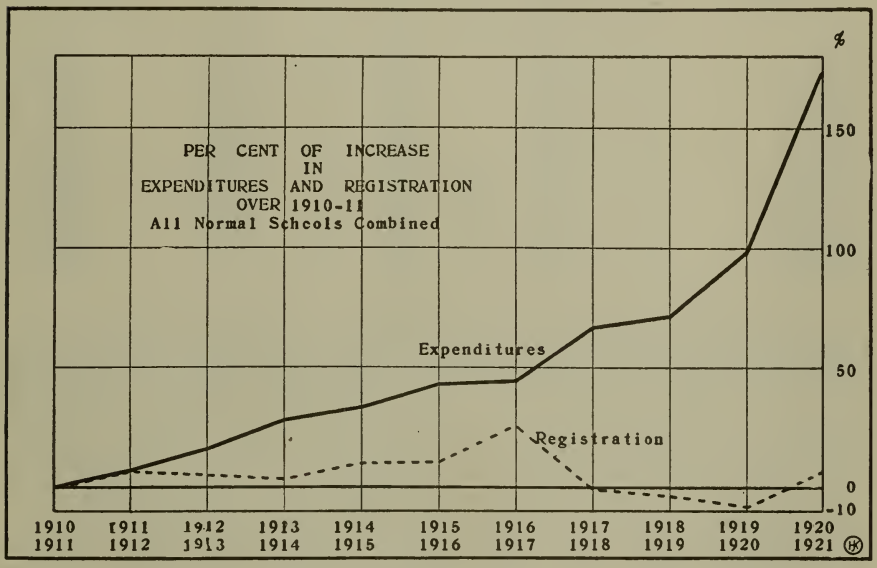

DIAGRAM 32

TABLE 63—MAINTENANCE EXPENDITURES STATE NORMAL SCHOOLS 1910–1921

Year	Total[1]	Increase over 1910	Per cent increase
1910–11	389,264.09		
1911–12	417,499.18	28,235.09	7.3
1912-13	451,408.76	62,144.67	16.0
1913–14	498,601.84	109,337.75	28.1
1914–15	520,007.91	130,743.82	33.6
1915–16	556,508.44	167,244.35	43.0
1916–17	562,630.05	173,365.96	44.5
1917–18	648,735.08	259,470.99	66.7
1918–19	666,657.63	277,393.54	71.3
1919–20	771,883.38	382,619.29	98.3
1920–21	1,062,656.95	673,392.86	173.0

1—These detailed data appear in the Appendix as Table XXXV.

Student Hour Costs

The general tendency in student hour costs at all four schools has been to more than double since 1910-11. In that year the range was from 16.1 cents at Michigan State to 27.4 cents at Northern State. The difference in cost was directly proportionate to the size of school.

The general tendency in cost increase over this period is well marked and consistent, although intermediate fluctuations occur at all schools.

These data are shown in the following table:

TABLE 64—TOTAL STUDENT HOUR COSTS[1]

Year	Michigan	Western	Central	Northern
	$	$	$	$
1910–11	.1618	.1998	.2406	.2744
1911–12	.1777	.1943	.2505	.2172
1912–13	.2011	.2088	.2894	.2400
1913–14	.2036	.2753	.2929	.2896
1914–15	.2045	.2725	.2906	.2379
1915–16	.2014	.3184	.2967	.2385
1916–17	.1900	.2626	.3232	.2082
1917–18	.2681	.3584	.4240	.3339
1918–19	.3890	.3076	.3029	.3250
1919–20	.3820	.3730	.3440	.4489
1920–21	.4675	.5225	.4287	.5028

It is impossible to divide these student hour costs into their major elements of administration, instruction and operation for all schools because of the incompleteness of detailed records at two of the state schools. The 1910 administration cost at Michigan State was 1.7 cents and at Central 3.5 cents. The general tendency of this cost has been to more than double. This is due to salary increase rather than much extension of the administrative staff. In 1920-21 the range was from 3.7 cents at Michigan State to 8 cents at Central.

The general tendency of administrative costs to vary directly with the size of the institution holds true for these schools. These data are shown in the following table:

TABLE 65—ADMINISTRATIVE COSTS PER STUDENT HOUR

Year	Michigan	Western	Central	Northern
1910–11	.0178	[2]	.0350	[2]
1911–12	.0181	[2]	.0353	[2]
1912–13	.0188	[2]	.0422	[2]
1913–14	.0191	[2]	.0446	[2]
1914–15	.0203	[2]	.0479	[2]
1915–16	.0200	[2]	.0499	[2]
1916–17	.0171	.0302	.0588	.0290
1917–18	.0229	.0403	.0743	.0418
1918–19	.0394	.0345	.0550	.0444
1910–20	.0357	.0442	.0635	.0630
1920–21	.0375	.0576	.0802	.0614

[1]—For detail see Appendix, Tables XL to XLIII.
[2]—No data.

Differences in teaching costs may be due generally to three factors (1) the salary range, (2) the teaching program in weekly recitation hours and (3) the class distribution by size. The range is from 26.2 cents at Central to 37.5 cents at Northern. Theoretically, the larger the school the lower the instruction cost if the salary distribution is assumed to be almost equal, for larger groups make possible better class distribution. This does not appear to operate at these schools for Western State, the second largest school shows an instruction cost far above that of Central and only slightly below Northern State. These data:

TABLE 66—INSTRUCTION COST PER STUDENT HOUR

Year	Michigan	Western	Central	Northern
1910–11	.1227	[1]	.1721	[1]
1911–12	.1303	[1]	.1797	[1]
1912–13	.1500	[1]	.2075	[1]
1913–14	.1480	[1]	.2073	[1]
1914–15	.1474	[1]	.2024	[1]
1915–16	.1490	[1]	.2017	[1]
1916–17	.1399	.1986	.2129	.1498
1917–18	.1734	.2416	.2832	.2265
1918–19	.2610	.2240	.1755	.2360
1919–20	.2562	.2655	.2252	.3169
1920–21	.3074	.3574	.2624	.3751

The operating costs show a fairly wide distribution. Northern State is lowest at 6.6 cents and Michigan State highest at 12.2 cents, or practically double that of Northern. There is a progressive difference of practically two cents between each of the schools.

While teaching costs at Michigan State increased 150% since 1910-11 operating costs have increased 500%. At Central State teaching costs increased 53 % and operating costs 157 %.

These data are shown as follows:

TABLE 67—OPERATING COST PER STUDENT HOUR

Year	Michigan	Western	Central	Northern
1910–11	.0213	[1]	.0335	[1]
1911–12	.0293	[1]	.0355	[1]
1912–13	.0323	[1]	.0397	[1]
1913–14	.0365	[1]	.0410	[1]
1914–15	.0368	[1]	.0403	[1]
1915–16	.0324	[1]	.0451	[1]
1916–17	.0330	.0338	.0515	.0294
1917–18	.0718	.0765	.0665	.0656
1918–19	.0886	.0491	.0724	.0446
1919–20	.0901	.0633	.0553	.0690
1920–21	.1226	.1075	.0861	.0663

[1]—No data.

Summary

1. Unit educational costs are complex in character and must be interpreted in conjunction with factors of policy, organization, character of school plant and salary conditions.

2. The per capita method of computing costs is likely to be misleading in that it does not take into consideration the actual service given to each student.

3. The student hour is a sensible basis upon which to compute costs for this is based upon actual instruction rendered.

4. A suggested distribution for a balanced budget is:

Administration	15.0%
Instruction	70.0%
Auxiliary Agencies	2.5%
Operation of Buildings	10.0%
Maintenance of Buildings	2.5%
Total	100.0%

5. Only one of the schools exceeds 15% in administration over a period of ten years.

6. Three schools are fairly in accord in instruction; only one falls slightly below the standard of 70%.

7. All schools are relatively high in operation costs. Not more than 10% should be devoted to this division.

8. Two schools exceed the suggested standard of 2.5% for plant maintenance but in the case of Michigan State several very old buildings account for this.

9. Maintenance expenditures have increased $673,392 or 173% since 1910-11. This is due generally to increased costs and specifically to desirable and essential salary increases.

10. Student hour costs have more than doubled since 1910-11. This is quite obviously reasonable for expenditures increased 173%, growth in regular sessions 32.6% and in summer sessions 102.4%.

11. The 1920-21 student hour cost by institutions was:

Central Normal	42.8 cents
Michigan State	46.7 cents
Northern State	50.2 cents
Western State	52.2 cents

12. The variation in costs between schools seems to be relatively large.

13. While teaching costs increased 150% at Michigan State and 53% at Central, the operation of buildings cost increased 500% and 157% respectively.

Chapter XIII—Salary Conditions

The question of salaries paid members of the faculty is of such vital importance in the character of state schools that it was considered desirable to treat teacher recompense in a separate chapter.

In a previous chapter on costs, the statement was made that the increase in costs had been due largely to salary increases because the salaries paid the faculties form 70 per cent of the entire maintenance expenditures.

The great plea during the war period was that the teachers' salaries were out of proportion with increasing living costs. This was true, particularly in colleges and universities. The second argument, little emphasized at the time, was that good teaching like other good things is expensive and that if well-trained capable teachers are not paid in proportion to services rendered they may enter other activities and teacher recruiting will become more difficult. To the writer, this, after all, is the most important of the reasons for salary increases.

These increases should have been made not only to adjust salaries to living costs but in some measure to give recompense in proportion to service.

The state that in the future neglects the rewards to teachers will find itself in a serious position educationally after a time, for the better teachers will go elsewhere or leave the profession and newcomers will not enter fields where the rewards are so inferior to service. Years ago this would not have been possible, for the average teacher was an academic type quite remote from practical life. This type has gradually changed since the beginning of the war period. Teachers have established contacts and developed social experiences that have brought

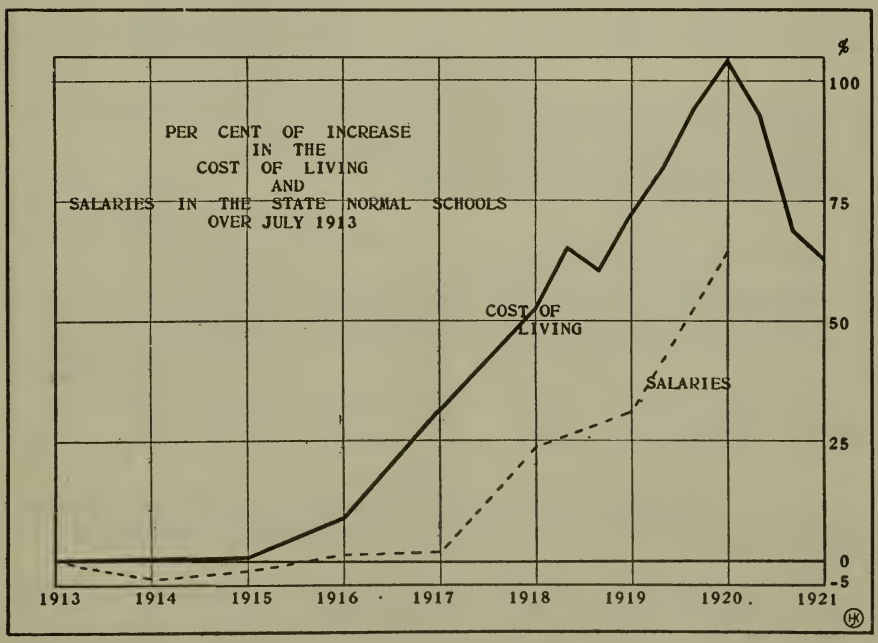

DIAGRAM 33

them nearer the living world. The changing attitudes in education alone have been largely responsible for these conditions.

Salaries at the state normal schools were increased to meet the changes in living costs. The first problem is to determine how closely these increases did approach changed conditions. The cost of living, assuming 1914 as the base, rose steadily as every one is aware, until it reached a high point of 104% over 1914 in July, 1920. Since that time the general decrease has been quite noticeable until in July, 1921, it reached a point slightly more than 60% above the 1914 level.[1]

During the same period there was practically no increase in the median and percentile salary increases at all schools until 1918-19. They then rose sharply but were still widely separated from living costs through 1920-21 when they began to be in agreement with the cost of living curve.

This survey pays no attention to the factor of proper recompense on the basis of service but considers merely the question of living expense. The answer is rather obvious. The salaries of the normal school faculties did not increase in proportion to the increase in the cost of living.

In 1920-21 fifty per cent of these faculties received from $1,944 to $3,269 with the median at $2,347. This appears graphically in the following diagram:

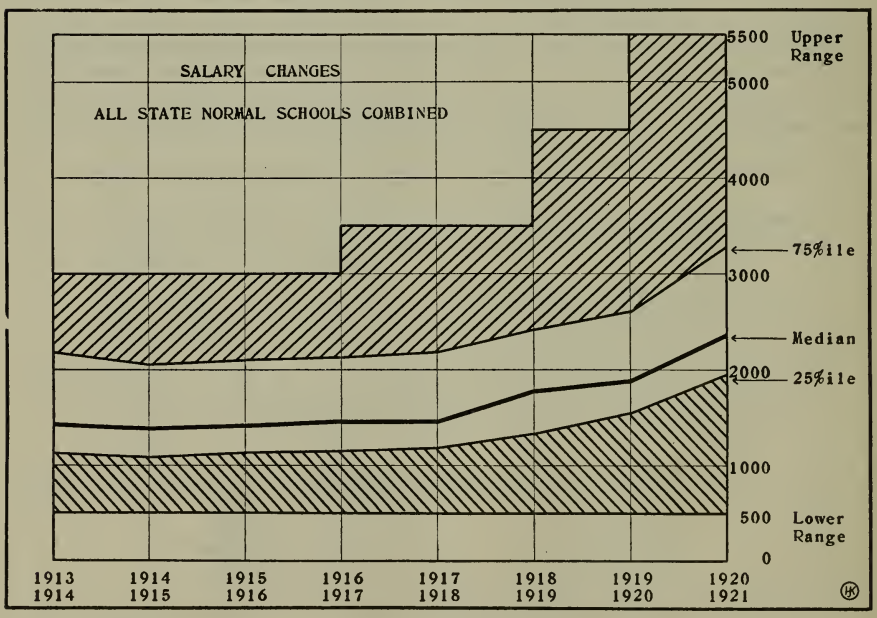

DIAGRAM 34

The next consideration is how the normal schools fared in relation to other state institutions. Data are available from the University of Michigan and the College of Mines.

In the lower quartile the normal schools increased 72.1%, the College of Mines, 67.8%, and the University of Michigan only 30.4%.

In the median the College of Mines increased 83.3%, the normal schools 64.3%, and the University of Michigan 34.9%.

[1]—National Industrial Conference bulletin No. 44.

In the upper quartile the College of Mines increased 72.5%, the University of Michigan, 57.3%, and the normal schools 50.9%.

In the lower quartile and in the median salaries the normal schools today are higher than the University of Michigan. These data appear in the table on the following page.

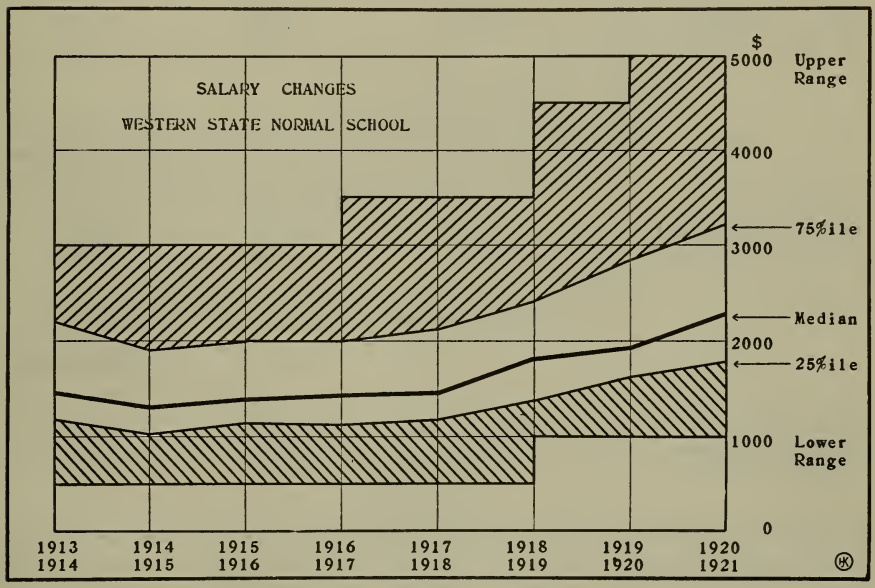

DIAGRAM 35

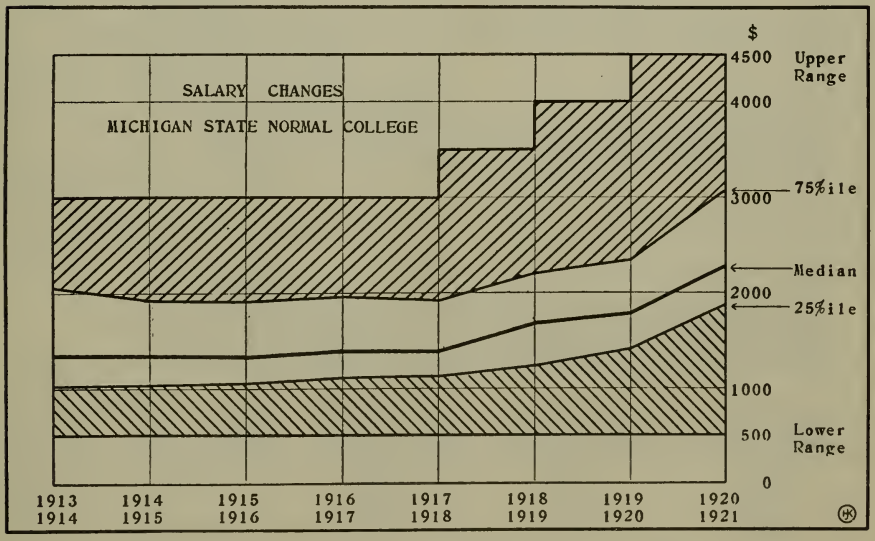

DIAGRAM 36

TABLE 68—COMPARISON OF QUARTILE AND MEDIAN SALARIES

First Quartile Salaries

School	1913–14	1920–21	Per cent increase
Normal Schools	$1,129	$1,944	72.1
Univ. of Michigan	1,077	1,405	30,4
College of Mines	1,229	2,062	67.8

Median Salaries

School	1913–14	1920–21	Per cent increase
Normal Schools	$1,429	$2,347	64.3
Univ. of Michigan	1,626	2,195	34.9
College of Mines	1,500	2,750	83.3

Third Quartile Salaries

School	1913–14	1920–21	Per cent increase
Normal Schools	$2,166	$3,269	50.9
Univ. of Michigan	2,305	3,627	57.3
College of Mines	2,083	3,593	72.5

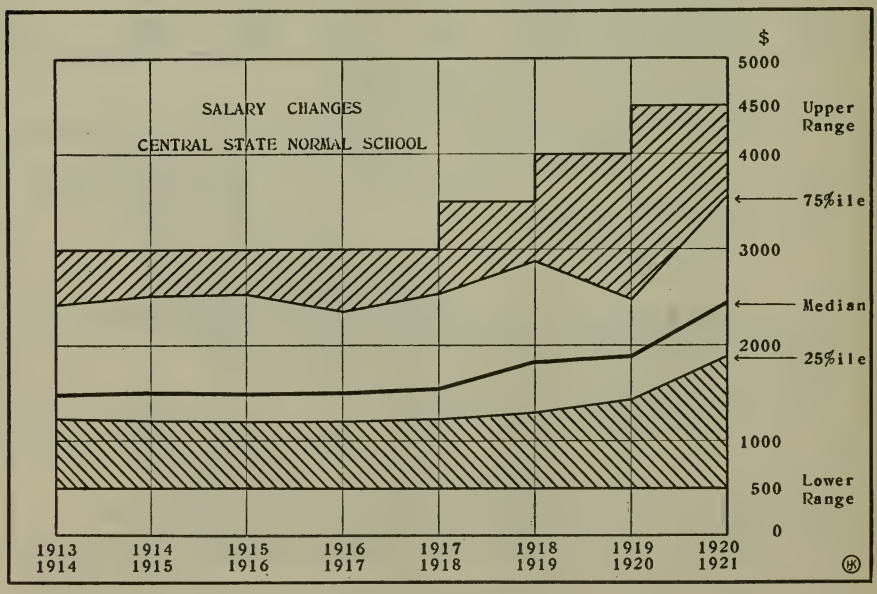

DIAGRAM 37

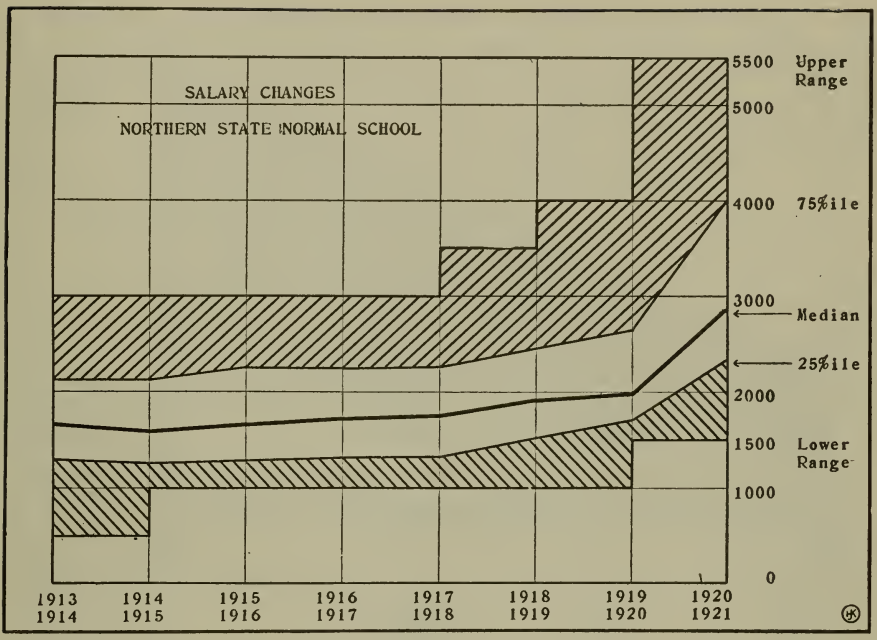

DIAGRAM 38

A comparison that may be reasonably made at present is how these salaries compare with the larger public school systems. It is assumed at the outset that members of normal school or university faculties should be paid more than teachers in secondary schools.

Salary distributions for high school teachers in Cleveland, St. Louis, Chicago, and Detroit in 1920-21 are available. Arranged in order of median salaries, the College of Mines is highest, the normal schools fifth, and the University of Michigan seventh.

In the lower quartile the normal schools are sixth and the University of Michigan seventh.

In the upper quartile the University of Michigan is first, the College of Mines second, and the normal schools third.

The salaries of 75% of the faculties at the normal schools and university are well below those paid secondary school teachers in the larger cities. These data appear in the following table:

TABLE 69—COMPARISON WITH CITY SCHOOL SALARIES

	First quartile	Median	Third quartile
College of Mines	$2,062	$2,750	$3,593
Cleveland	2,177	2,566	2,992
St. Louis	2,400	2,550	2,850
Chicago	2,183	2,350	2,616
NORMAL SCHOOLS	1,944	2,347	3,269
Detroit	2,000	2,300	2,450
University of Michigan	1,405	2,195	3,627

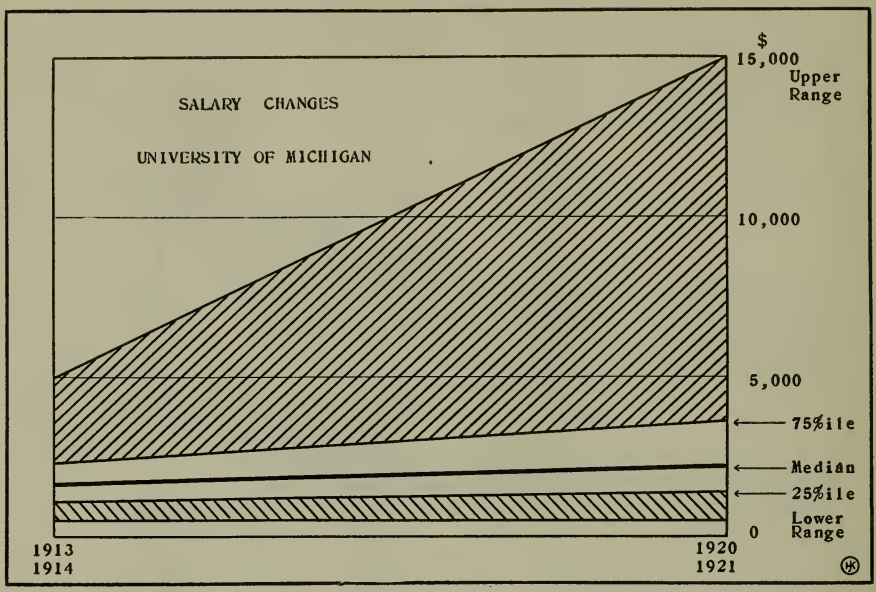

DIAGRAM 39

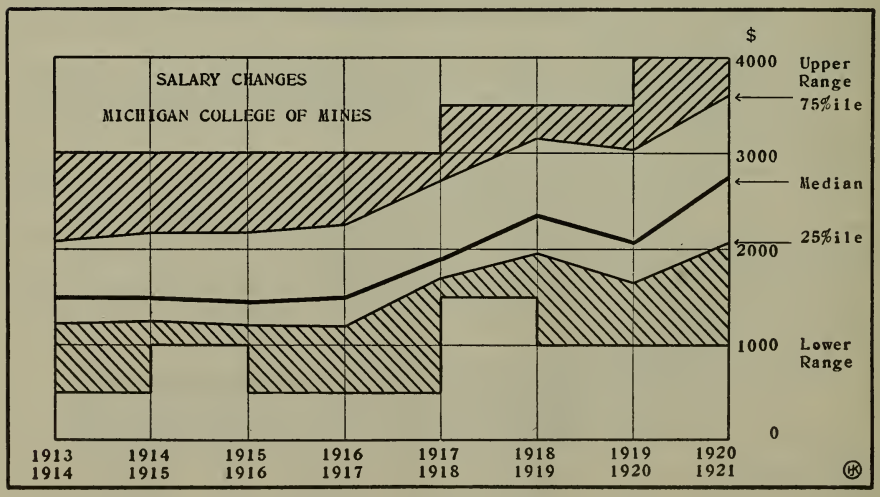

DIAGRAM 40

Study of salaries at the individual normal schools shows a fair variation. The range of 1920-21 salaries in the lower quartile is from $1,789 to $2,333. The median range is from $2,261 to $2,857 and the upper quartile range is from $3,218 to $4,000. Resignations and replacements at lower salaries is responsible for some of these differences, but from the percentage increase it would appear that certain schools increased at a faster rate than others. Northern State has the highest general percentage increase with Michigan State second.

These variations appear in the following table.

TABLE 70—COMPARISON OF NORMAL SCHOOL SALARIES[1]

A—Lower Quartile

School	1913–14	1920–21	Per cent increase
Michigan State	$1,017	$1,864	83.3
Western State	1,166	1,789	53.4
Central Michigan	1,223	1,875	53.2
Northern State	1,291	2,333	80.6

B—Median Salaries

School	1913–14	1920–21	Per cent increase
Michigan State	$1,340	$2,261	68.7
Western State	1,452	2,284	57.2
Central Michigan	1,473	2,425	64.6
Northern State	1,656	2,857	72.5

C—Upper Quartile

School	1913–14	1920–21	Per cent increase
Michigan State	$2,053	$3,069	49.5
Western State	2,200	3,218	46.3
Central Michigan	2,416	3,541	46.6
Northern State	2,125	4,000	88.2

Summary

1. **It is of vital importance to the state that the faculties of the institutions of higher learning be paid in proportion to the value of their services in addition to maintaining the relationship between apparent and actual purchasing power.**
2. **The salaries of faculty members at the state normal schools were not increased in proportion to the cost of living which rose 104%, while salaries rose as follows: lower quartile, 72.1%; median, 64.3%, and upper quartile, 50.9%.**
3. **The salaries generally are below those paid teachers in secondary schools in the larger cities.**
4. **There is a fairly wide variation in quartile and median salaries at the several schools. In general they increased most rapidly at Northern and Michigan State.**
5. **The salaries paid are still too low for the type of service necessary for the development of normal schools as institutions of collegiate rank.**

1—For detailed distribution see Appendix, Table XLIV to L.

Chapter XIV—Social Conditions

A study was made of social conditions at the four normal schools. This includes age, nativity, race, economic condition, parental education, reasons for teaching, expenses and housing conditions. Each of these divisions is discussed in more or less detail. For purposes of ease in presentation the results at all of the schools are combined.

Nativity of Students

Eighty-seven per cent of the students now in the state normal schools are 21 years or younger. Thirty-four are under 17 years old and 70 are more than 29 years. The general age distribution shows that the state teacher training schools are concerned primarily with the training of students who are just past the high school age. Ninety-eight per cent of the girls and boys were born in the United States. Of the balance, 19 are Canadians, 7 English, 3 are Italians and the remainder are scattered over half a dozen other national groups. The significant fact is that the great majority of students in training are native born. This is shown in Table 71.

TABLE 71—COUNTRY OF STUDENT'S BIRTH AND AGE OF STUDENTS

(a) Men

Country of student's birth	Age of students																
	16 and under	17	18	19	20	21	22	23	24	25	26	27	28	29	30 and over	Total	Per Cent
United States	10	51	80	122	113	94	35	44	30	35	16	20	11	7	15	683	98.3
Canada	...	...	...	...	1	1	...	1	1	2	...	...	...	...	1	7	1.0
Italy	...	...	...	...	...	1	...	...	...	2	...	...	...	...	...	3	.4
Holland	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	.1
Finland	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	.1
Philippine Islands	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	.1
Total	10	51	80	122	115	96	36	45	31	39	16	20	11	8	16	696	
Per cent	1.4	7.3	11.5	17.4	16.5	13.8	5.2	6.5	4.5	5.6	2.3	2.9	1.6	1.2	2.3	...	100.0
No information	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	
Total	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	698	

(b) Women

United States	24	229	500	504	316	210	129	78	52	56	33	20	17	9	48	2,225	98.5
Canada	...	1	...	3	1	1	...	...	1	...	2	...	...	...	3	12	.5
England	...	...	1	1	...	2	...	1	...	...	...	1	...	...	1	7	.3
Poland	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	2	.1
Germany	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	2	.1
Russia	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	.05
Porto Rico	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	.05
South Africa	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	.05
Newfoundland	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	.05
Finland	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	.05
Denmark	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	.05
Austria Hungary	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	.05
Persia	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	.05
Sweden	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	2	.1
Total	24	231	504	508	322	215	129	79	53	57	35	21	17	9	54	2,258	
Per cent	1.1	10.2	22.3	22.4	14.3	9.5	5.7	3.5	2.4	2.5	1.6	.9	.8	.4	2.4	...	100.0
No information	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10	
Total	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2,268	

(c) Men and Women

Total	34	282	584	630	437	311	165	124	84	96	51	41	28	17	70	2,954	
Per cent	1.2	9.6	19.7	21.2	14.8	10.5	5.6	4.2	2.8	3.3	1.7	1.4	1.0	.6	2.4	...	100.0
No information	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12	
Total	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2,966	

Nativity of Parents

Seventy and one-half per cent of the male parents and seventy-three and nine tenths per cent of the mothers of these students were born in this country. The five dominant racial groups, including 91 per cent of the total, embrace the United States, Canada, Germany, England and Sweden. The rest are scattered over 26 different nations. These data appear in table 72.

TABLE 72—COUNTRY OF BIRTH OF FATHER AND MOTHER.

Country of birth	Father	Mother	Per cent fathers	Per cent mothers
United States	2,090	2,195	70.5	73.9
Canada	281	277	9.4	9.4
Germany	85	70	2.9	2.4
England	135	89	4.6	3.0
Sweden	119	103	4.0	3.5
Switzerland	6	5	.2	.2
Denmark	20	17	.7	.6
Italy	10	9	.3	.3
Russia	7	6	.2	.2
Finland	62	54	2.1	1.8
Norway	31	33	1.1	1.1
Netherlands	32	26	1.1	.9
France	5	5	.2	.2
Ireland	34	30	1.2	1.0
Poland	7	5	.2	.2
Scotland	8	3	.3	.1
Porto Rico	1	1	.03	.03
Bohemia	2	5	.06	.2
Syria	1	2	.03	.1
Austria	19	18	.6	.6
Lithuania	4	3	.1	.1
Nova Scotia	.....	1	.....	.03
Luxemburg	.....	1	.....	.03
Wales	.....	1	.....	.03
Persia	.....	1	.....	.03
China	.....	1	.....	.03
Australia	.....	1	.....	.03
Philippine Islands	1	1	.03	.03
Belgium	3	.....	.1	.....
Newfoundland	1	.....	.03	.....
Turkey	1	.....	.03	.....
Total	2,965	2,963	100.0	100.0

Home Language

English is the home language of 94.5% of these students. The other 5.5% speak 18 different languages with Swedish, Finnish, French and German pre dominating. It is interesting to note that the majority of foreign-born families from Holland, Norway, Denmark, Sweden and Germany have adopted English as the home language. This is shown in Table 73.

TABLE 73—HOME LANGUAGE

Country of father's birth	Home Language								
	English	German	Swedish	Danish	Norwegian	Italian	Dutch	Polish	French
United States	2,085	1			1				2
Canada	260	1							20
Germany	75	9						1	
England	135								
Sweden	83		36						
Ireland	34								
Denmark	15			5					
Norway	22		1		8				
Italy	6					4			
Netherlands	27						5		
Poland	3							3	[1][2]
Russia	5	1							[1][2]
Scotland	8								
Switzerland	5		1						
France	4								1
Finland	17		7						[3][8]
Austria Hungary	9	1				2		1	[7][4]
Belgium	3								
Porto Rico									[1][1]
Newfoundland	1								
Lithuanian	3								[1][2]
Bohemian	1								[1][4]
Turkey									[1][5]
Syria									[1][6]
Philippine Islands									[1][1]
Total	2,801	13	45	5	9	6	5	5	76
Per cent	94.5	.4	1.5	.2	.3	.2	.2	.2	2.5
No information									1
Total									2,966

[1]Spanish
[2]Hebrew
[3]Finnish
[4]Hungarian-Bohemian
[5]Armenian
[6]Syrian

Size of Family

More than half of these students come from families with more than three children. The median falls in the families having between three and four children. Thirteen families show 12 children, 26 have 11 children and 35 have 10 children. Large families are not limited to those of foreign birth, for the native Americans show a good distribution in size of family, averaging 4.5 children. These data appear in the following table:

Country of father's birth	Size of family												Not specified	Total	Per cent
	1	2	3	4	5	6	7	8	9	10	11	12			
United States	252	437	429	313	244	143	77	58	39	14	10	2	36	2,054	70.1
Canada	25	38	44	53	38	21	18	19	12	6	4	3	4	285	9.7
Germany	6	16	11	7	17	7	8	6	2	1	3	1	1	86	2.9
England	15	16	21	17	14	17	12	6	3	2	1	2	3	129	4.4
Sweden	8	8	14	23	21	11	11	9	3	3	....	1	4	116	4.0
Ireland	.....	3	2	5	6	4	5	3	2	1	....	1	3	35	1.2
Denmark	1	2	4	2	1	4	4½	1	....	1	1	....	.....	21	.7
Norway	2	6	3	6	2	2	3	2	2	1	1	1	2	33	1.1
Italy	1	1	2	.....	2	1	.....	1	....	....	....	....	1	9	.3
Russia	.....	.....	.....	1	2	2	1	.....	....	1	....	....	.....	7	.2
Poland	.....	.....	3	3	.....	1	.....	.....	....	1	....	....	.....	8	.3
Netherlands	3	2	6	7	5	4	1	6	1	....	2	....	.....	37	1.3
France	1	2	.....	1	1	.....	.....	.....	....	....	....	....	.....	5	.2
Switzerland	.....	.....	.....	.....	2	2	1	.....	....	....	....	....	1	6	.2
Finland	1	6	4	8	11	6	7	5	2	2	1	....	3	56	1.9
Scotland	2	1	3	2	3	.....	1	.....	....	....	1	1	.....	14	.5
Belgium	.....	.....	.....	.....	.....	.....	1	.....	1	....	....	....	1	3	.1
Porto Rico	.....	.....	.....	.....	.....	.....	.....	.....	....	1	....	....	.....	1	.03
Austria Hungary	1	2	1	1	2	2	2	3	....	1	2	1	.....	18	.6
Bohemia	.....	.....	.....	.....	.....	2	1	.....	....	....	....	....	.....	3	.1
Lithuania	.....	.....	.....	.....	1	2	.....	.....	....	....	....	....	.....	3	.1
Czecho Slovakia	.....	.....	.....	.....	.....	.....	1	.....	....	....	....	....	.....	1	03
Turkey	.....	.....	.....	1	.....	.....	.....	.....	....	....	....	....	.....	1	.03
Syria	.....	.....	.....	.....	.....	.....	.....	.....	1	....	....	....	.....	1	.03
Philippine Islands	.....	.....	1	.....	.....	.....	.....	.....	....	....	....	....	.....	1	.03
Total	318	540	548	450	372	231	154	119	68	35	26	13	59	2,933	
Per cent	10.8	18.4	18.7	15.3	12.7	7.9	5.3	4.1	2.3	1.2	.9	.4	2.0	.....	100.0
No information	.....	.....	.....	.....	.....	.....	.....	.....	....	....	....	....	.....	33	
Total	.....	.....	.....	.....	.....	.....	.....	.....	....	....	....	....	.....	2,966	

Occupation of Parents

One-third of the parents of those reporting are engaged in agriculture, 28.6% in trade and 11% in manufacturing. Only 6.7% are professional men. In 326 cases the father has died, leaving the family dependent upon the mother. Almost two-thirds of the students come from cities, towns or villages. The median income of parents of normal students is approximately $1,500. Fifty per cent of the incomes range between $1,000 and $3,000. There are 3.4% who have retired. The median income for this group is $1,700. The significant fact developed is that at least two-thirds of the families would have great difficulty in financing sons and daughters in any institutions of higher learning under existing costs. These data appear in Table 75.

TABLE 75—FATHER'S OCCUPATION AND INCOME

Occupation	Income not stated	$500 or less	$501 $1,000	$1,001 $1,500	$1,501 $2,000	$2,001 $2,500	$2,501 $3,000	$3,001 $4,000	$4,001 $5,000	Over $5,000	Total	Per cent
1 Agriculture	118	39	161	183	133	105	63	34	17	21	874	33.5
2 Extraction of minerals	23	3	4	17	14	6	6	2	1	1	77	3.0
3 Manufacturing	46	2	15	61	52	46	26	21	6	11	286	11.0
4 Transportation	21	.....	6	13	14	15	16	8	4	4	101	3.9
5 Trade	151	4	42	144	102	89	79	48	33	50	742	28.6
6 Public service	20	1	3	21	20	19	9	8	3	2	106	4.1
7 Professional service	22	1	4	35	21	20	19	15	18	18	173	6.7
8 Domestic and personal service	3	.....	3	8	2	2	.....	.....	.....	.....	18	.7
9 Clerical	12	1	5	15	8	3	3	1	4	1	53	2.0
Totals	416	51	243	497	366	305	221	137	86	108	2,430	
Occupation not stated	30	1	5	3	3	2	.....	.....	1	1	46	1.8
Retired	26	10	11	15	10	3	2	3	5	4	89	3.4
No occupation	25	.....	3	2	2	.....	1	.....	.....	.....	33	1.3
Totals	497	62	262	517	381	310	224	140	92	113	2,598	
Per cent	19.1	2.4	10.1	19.9	14.7	11.9	8.6	5.4	3.5	4.4		100.0
Total listed above	2,598	87.6										
Fathers deceased	326	11.0										
No information	42	1.4										
Total	2,966	100.0										

Property of Parents

Eighty-four per cent of the parents own property. There are 27.3% who own farms, 40.3% who own city property and 16.8% who own both. Nine per cent have no property and six per cent furnished no information. This appears in the following table:

TABLE 76—PROPERTY OWNED BY PARENTS

Occupation	Type of Property Owned						
	City	Farm	Both	None	No information	Total	Per cent
1 Agriculture	62	533	128	44	107	874	33.5
2 Extraction of minerals	42	8	4	22	1	77	3.0
3 Manufacturing	189	22	27	41	7	286	11.0
4 Transportation	59	14	13	9	6	101	3.9
5 Trade	438	62	149	58	35	742	28.6
6 Public service	55	12	28	9	2	106	4.1
7 Professional service	91	17	35	25	5	173	6.7
8 Domestic and personal service	13	2	.....	3	.....	18	.7
9 Clerical	35	2	10	6	.....	53	2.0
Totals	984	672	394	217	163	2,430	
Occupation not stated	9	17	12	8	.....	46	1.8
Retired	37	16	29	4	3	89	3.4
No occupation	19	3	2	9	.....	33	1.3
Total	1,049	708	437	238	166	2,598	
Per cent	40.3	27.3	16.8	9.2	6.4		100.0

Education of Parents

Less than one per cent of the parents are unable to read or write in English. Eighty-five per cent have completed the eighth grade. Fifteen per cent have completed high school while 4.2% are themselves normal school graduates. Eight per cent are college or university graduates. The outstanding fact is that 14.9% of those reporting have less than the equivalent of an eighth grade education. Three hundred forty-three did not report and it is reasonable to suppose that they fell in the lower group. These data appear in the following table:

TABLE 77—EDUCATION OF PARENTS

(a) Father

	Unable to read or write	3rd grade	6th grade	8th grade	High school				Normal school	College	University	Total	No information	Total
					1st yr.	2nd yr.	3rd yr.	4th yr.						
Number...	29	82	329	1,134	159	188	109	362	57	213	116	2,778	188	2,966
Per cent...	1.0	3.0	11.8	40.8	5.7	6.8	3.9	13.0	2.1	7.7	4.2	100.0	.....	.....

(b) Mother

	Unable to read or write	3rd grade	6th grade	8th grade	High school				Normal school	College	University	Total	No information	Total
					1st yr.	2nd yr.	3rd yr.	4th yr.						
Number...	23	51	317	1,030	191	251	136	483	179	134	19	2,811	155	2,966
Per cent...	.8	1.8	11.3	36.5	6.8	8.9	4.8	17.2	6.4	4.8	.7	100.0		

(c) Parents

	Unable to read or write	3rd grade	6th grade	8th grade	High school				Normal school	College	University	Total	No information	Total
					1st yr.	2nd yr.	3rd yr.	4th yr.						
Number...	52	133	646	2,164	350	439	245	845	236	347	135	5,589	343	5,932
Per cent...	.9	2.4	11.6	38.6	6.3	7.9	4.4	15.1	4.2	6.2	2.4	100.0		

Reasons for Teaching

There were 2,874 reports on reasons for entering the teacher training schools. Of this number 55.5% appear to be actuated by a real desire to teach. Some few took up the work because the parents decided it was the best thing. Teacher recruiting in secondary schools evidently influenced 7.8%, but 28.1% frankly stated that they did not intend to teach and desired the education for personal reasons. These data appear in the following table:

TABLE 78—REASONS FOR TEACHING

		Number	Per cent
(1)	Like the work	434	15.1
(2)	Desire to teach	413	14.4
(3)	Enjoy working with children	280	9.7
(4)	Decided by parents	248	8.6
(5)	Think they would like work	232	8.1
(6)	Influenced by others	225	7.8
(7)	Provides channels for higher education	174	6.1
(8)	No reason	129	4.5
(9)	To help others	120	4.2
(10)	Best fitted for work	116	4.0
(11)	Do not intend to teach	98	3.4
(12)	Miscellaneous	77	2.7
(13)	Economic reasons	73	2.6
(14)	To become self-supporting	71	2.5
(15)	To get an education	67	2.3
(16)	Not decided definitely	61	2.1
(17)	Better opportunities for advancement	29	1.0
(18)	To better equip themselves for business	27	.9
	Totals	2,874	100%

Self-Supporting Students

Fifty-one per cent of the students reporting are self-supporting to a greater or less degree.[1] There were 1,531 students who claimed some degree of self-activity to provide for college expenses. This is self-evident from the study of family incomes. The surprising fact is that approximately only half are self-supporting.

Of those who work 18.5% are one quarter self-supporting; 13.5% provide half of their expenses and 44.8% earn practically all of the money necessary to keep them in school. There are 4.3% who work for room and board only and 8.6% who worked before coming to school. The range of work embraces 46 different occupations including every thing from mining and cooking to professional baseball and teaching.

While it is not undesirable that students should partially earn their way, it becomes a handicap to college work when it is necessary to work for a complete living and go to school as an over-time proposition. These data appear in the following table:

1—This is somewhat higher than the estimate for the country, which is 45 per cent.—The American Schoolmaster—May, 1922, Vol. 15, No. 5, p. 180.

TABLE 79—SELF-SUPPORTING STUDENTS

Self-Supporting	Cafeteria	Teaching	Odd Jobs	Office	Boarding house	Music	Driving	House work	Farming	Store clerk	Library	Labor	Photography	Work in college	Garage	Painter	Factory	Sewing	Electrical work	Pro. baseball	Vacation work	Telephone opr.	Contractor	Post office clerk	Furnace	Insurance	Summer resort	Carpenter	Road work	Waiter	Janitor	Barber	Druggist	Cook	Bank	Tailor	Borrowed Money	Salesman	Take care of children	Shoe cutter	Reporter	Nightwatchman	Engineering	Phys. asst.	Baker	Govt. comp.	Mining	Unspecified	Totals	Per cent
One Quarter	5	16	24	22	9	10	7	23	12	47	9	2	2	4	4	..	3	3	..	..	12	2	..	..	..	..	1	..	1	1	..	..	..	1	1	1	4	1	2	..	..	..	1	..	..	..	2	52	284	18.5
One Half	4	24	33	13	6	9	1	17	7	17	4	2	1	2	3	1	4	1	..	..	4	..	..	..	..	..	..	..	..	2	1	..	..	..	..	1	14	2	1	..	..	..	1	1	1	..	.	30	207	13.5
Three Quarters	3	41	23	10	4	4	1	11	4	15	1	4	1	..	..	..	1	2	.	..	3	2	..	..	..	1	..	..	..	1	..	..	..	..	..	..	6	2	2	1	..	..	..	..	..	..	..	23	166	10.8
Wholly	4	210	58	37	8	7	1	18	7	17	3	8	1	8	1	..	1	..	3	..	2	7	1	1	..	2	..	4	..	..	6	5	1	..	1	2	10	7	....	1	1	1	..	..	..	..	2	1	59	506	33.0
Working and living with parents	..	....	6	2	..	..	..	2	3	....	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	..	..	..	..	..	..	..	..	..	15	30	2.0
Working for room and board	13	1	2	...	6	..	..	32	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	....	..	..	..	..	..	..	..	..	..	9	66	4.3
Worked before going to college	..	96	1	9	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	....	..	..	..	..	..	..	..	..	..	22	131	8.6
Amount not stated	4	28	11	12	1	4	1	2	4	6	2	1	..	3	2	..	..	..	..	1	3	..	..	..	1	..	2	..	..	1	..	..	..	..	..	1	12	..	....	..	..	..	..	..	..	2	.	21	125	8.2
Summer work	6	...	...	...	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	..	..	..	..	..	..	..	..	..	9	16	1.1
Total	39	416	158	105	34	34	11	106	37	102	19	19	5	18	11	1	11	6	3	1	24	11	1	1	1	3	3	4	1	4	8	5	1	1	3	5	47	12	5	2	1	1	2	1	1	4	3	240	1,531	100.0

Total Listed Above	1,531	51.6
Not Self Supporting	1,365	46.0
No Information	70	2.4
Total	2,966	100.0

Living Expenses

There were 1,247 reports on the question of living expenses that could be properly tabulated. The median cost for the regular school year is $512. Twenty-five per cent of this group spend less than $376, while the upper quartile spend more than $652. The range of the middle 50 per cent is from $376 to $652, or a monthly range of $37 to $65.

The lower and upper ends of the distribution may be disregarded for the purposes of this report, placing the emphasis on the middle 50 per cent.

The range of price of board is from $4 to $8 weekly. This is the same at all four schools. The weekly cost of rooms varies from $1 to $8.

The median expenditure for recreation is about $2 monthly, and the yearly median for medical services is $4.94. The median cost of transportation is $28.00. The average student spends $113 for clothes a year while in college. This small expenditure presupposes a large supply prior to entering school.[1]

These data on the total expenses appear in the following table:

TABLE 80—TOTAL EXPENSES FOR ONE YEAR (3 TERMS)

Annual expenditures	Number of students	Per cent
$120	20	4.1
150	21	1.7
180	31	2.5
210	30	2.4
240	26	2.1
270	23	1.8
300	42	3.4
330	45	3.6
360	80	6.3
390	60	4.8
420	59	4.7
450	74	5.9
480	73	5.9
510	99	7.8
540	73	5.9
570	49	3.9
600	70	5.6
630	40	3.2
660	40	3.2
690	63	5.1
720	38	3.1
750	48	3.9
780	32	2.6
810	33	2.7
840	9	.7
870	14	1.1
900 and over	25	2.0
Total	1,247	100.0
No information	227	
Total	1,474	
25 Percentile		376.00
Median		512.00
75 Percentile		652.00

1—For details see Appendix, Tables LIV–LX.

Medical Service

The reports of 1,136 students showed the median annual expenditure to be $4.94 for medical service.[1] This low cost is accounted for by the fact that 379 did not spend anything. The range of costs is from zero to $60.

Michigan State is the only school that has developed health service for the students and possesses an infirmary. Many universities and colleges have established such service and are attempting to develop preventive medicine through this agency.

Social Conditions

The social conditions are those that might be expected in cities of these sizes. Each city is well supplied from a religious standpoint and of the cases reporting only 88 gave no information. There were 9.9 per cent who had no church affiliations and the rest were scattered over 26 denominations, predominatingly Protestant.[2]

Apart from the church the social attractions are those furnished by the movies and public dance halls, which the students generally are forbidden to attend.

The social life at the colleges is not particularly rich, and the scattering of girls in scores of private dwellings with few social advantages, is not very helpful.

These schools face important problems in providing an adequate social background for hundreds of young people upon whose social ideals, habits and tastes will ultimately depend the future of hundreds of children. These problems can be solved only through the dormitory and commons system which will serve a two-fold purpose in providing the necessary common meeting place for the development of social background and also enable the students to live at a much more reasonable cost than at present.

Summary

1. The state normal schools are engaged primarily in preparing for the teaching profession girls and boys who are recent graduates of high schools. Eighty-seven per cent are 21 years of age or younger.

2. Ninety-eight per cent of the students are native-born Americans.

3. Seventy per cent of the male parents and 73.9 per cent of the mothers of these students are native-born.

4. The home language in 94.5% of the cases reported is English.

5. The median size of family of these students is between three and four children. The native Americans average 4.5 children to the family.

6. One-third of the parents are farmers, 28.6% are engaged in trade, 11% in manufacturing and 6.7% are professional men. Almost two-thirds of the students come from cities, towns or villages.

7. The median parental income is approximately $1,500. Fifty per cent of the families have incomes ranging from $1,000 to $3,000.

8. Eighty-four per cent of the parents own real property of some description.

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[1]—See Appendix, Table LVIII.
[2]—See Appendix, Table LIII.

9. Less than one per cent of the parents are unable to read or write in English.

10. Fourteen and nine-tenths per cent have less than an eighth grade education.

11. Of the students reporting 71.9% intend to teach.

12. Twenty-eight per cent of the students do not intend to teach, and are attending the normal schools for cultural and professional ends other than teaching.

13. Fifty-one per cent of the students reporting are either partially or wholly self-supporting.

14. The median cost of maintenance for the regular school year is $512. The range of the middle 50 per cent is from $37 to $65 monthly.

15. The range of weekly price for board is from $4 to $8 at all four schools.

16. The range of weekly rent for room is from $1 to $8.

17. While it is not undesirable that students should be partially self-supporting, yet the amount of time required in these smaller cities under present industrial conditions to earn expenses, would seem to be greater than a student can give and still be able to do justice to his or her college work.

18. The social and economic problems at these schools can be solved ultimately through the establishment of the dormitory and commons systems.

Chapter XV—Intelligence of Students

Early in the fall of 1921 the students at the four state schools were given the army alpha test under the direction of the psychology department at each school. These were scored at the school, checked by the writer, transferred to Hollerith cards and tabulated.

The tabluation of these scores by school and by group-letter classification shows more than three-fourths of both men and women in the A and B groups, except in the case of Northern State, where 71.9% of the men are in these groups. The women students at Michigan, Western, Central and Northern State show 85.8%, 89.9%, 85.2% and 83%, respectively in the two upper groups. This detail appears in Table 80a.

TABLE 80a—PER CENT OF STUDENTS IN EACH INTELLIGENCE GROUP AT THE STATE NORMAL SCHOOLS

Letter rating	D–		D		C–		C		C+		B		A		Total	
School	M	W	M	W	M	W	M	W	M	W	M	W	M	W		
Sex Score	0-14		15-24		25-44		45-74		75-104		105-134		135-212		M	W
Michigan State							.7	.9	15.2	13.3	28.7	34.9	55.4	50.9	100	100
Western State							.6	.6	11.0	9.5	33.6	39.3	54.8	50.6	100	100
Central Mich.							3.4	3.7	15.5	11.1	28.2	39.0	52.9	46.2	100	100
Northern State							4.0	2.7	13.0	25.4	39.0	41.4	44.0	30.5	100	100

Northern State in each year presents somewhat lower scores than the other three schools, but all of the median scores fall well within the A group. All of the scores increase directly with the number of years of training, and the median of the men students is higher than that of the women. This is shown in Table 80b.

TABLE 80b MEDIAN SCORES IN ARMY ALPHA TEST

		1st year students	2nd year students	3rd year students	4th year students	Entire school
Michigan	men	130 141	142 94	156 21	161 26	137 282
	women	127 644	145 584	147 40	148 23	134 1291
Central	men	126 125	148 35	165 8	173 6	134 174
	women	129 351	139 74	170 4	162 4	132 433
Western	men	129 179	140 120	151 20	151 8	135 327
	women	128 440	141 372	143 15	154 13	134 840
Northern	men	126 73	131 19	148 6	173 2	129 100
	women	120 213	122 110	119 6	135 2	120 331

These median scores compare very favorably with the results of tests at other normal schools. The median score of nine selected normal schools[1] is 122, which is practically that of Northern Normal. The other three schools range from 12 to 15 points above this median. They are in close agreement with the median of State Normal School, St. Cloud, Minn., 135, and that of State Normal School, Winona, Minn., 134. Teachers new to the Detroit system[2] show a median score of 148 and a first quartile score of 131. As these new teachers are generally selected from the upper third of the normal school graduating classes the median might be expected to range somewhat higher than for the schools as a whole.

The Michigan scores show reasonable correspondence to results of other examinations and may be considered as representative, upon the whole, of conditions at these schools.

No attempt is made to draw hard and fast conclusions from the data presented for obvious reasons. The general impression current, ever since post war studies based on the army test began to appear, has been that normal school students were recruited largely from the lower end of the high school groups, in other words the teacher training schools were receiving an inferior type of student.

The evidence presented indicates that this is not the case at the Michigan state schools.

1—H. A. Peterson and J. C. Kuderna in School and Society, vol. XIII, No. 329, pp. 476-80.
2—Tests in 1921-22 by Warren K. Layton, Detroit Psychological clinic.

Chapter XVI—Records

The records of the state normal schools may be divided into two groups:

(1) Accounting records.

(2) General administrative or student accounting records.

The first group is definitely required by state law. It comprises such records as the central accounting board requires to maintain complete and continuous knowledge of financial transactions. This went into operation July 1, 1921, and will require several years before it operates smoothly and effectively.

The second group of general administrative or student accounting records is left to the individual schools. At some the records are fairly complete and the information readily available. At others the records are incomplete, making it impossible to trace information any great length of time. It appears, generally, that the keeping of records in the past had been left wholly to an administrative officer without definite direction as to what was necessary from an administrative standpoint.

Chapter XVII—Publicity

Publicity has not been well developed at the state normal schools. Each institution prints a monthly or bi-monthly or weekly student paper the circulation of which is limited closely to the students and a few of the alumni. The character of these papers is practically the same. They record the happenings that would interest students together with an occasional article on college policy. They serve a distinct purpose in their field and are valuable in the building of a college spirit and unity. As general publicity they have little weight.

The official catalog or announcement is the general means of publicity. These are written in traditional college catalog style, and, although illustrated, have no appeal to the general public. Their range is limited to satisfy the needs of prospective and old students for information about the rules, regulations and courses of the college.

In addition to these two types of publicity, Michigan State Normal College publishes the Michigan Schoolmaster, a monthly journal devoted to educational activities. This journal has an excellent reputation as a medium of professional news.

Several of the schools employ an extension worker during the summer months to cover the secondary school field.

From time to time daily newspapers carry information about the normal schools, but this is largely athletic comment.

There is no general policy or means for developing proper publicity. There is no general medium whereby news of the work of these institutions is disseminated among the people of the state. This is one of the weaknesses of the state teacher training schools. The general public is not aware of the importance of these schools because it has not been given the opportunity to hear of them in an understandable fashion. Sensible publicity, based upon fact, and presented in readable form would be one of the best ways for the teacher training schools to sell their program.

Part III—NEEDS

Chapter XVIII—Demand for Teachers

The future of the state teacher training schools is dependent upon the demand by the state for teachers not only for the public schools but for the non-public schools[1] as well. At the last session of the legislature certain professional requirements[2] for all teachers were set forth by law. The state is therefore obligated to furnish opportunity to secure this training legally demanded.

The future demand for teachers is contingent upon the growth of the state and the development of its schools. The growth of the state depends upon the industrial conditions. It is quite generally believed by economists that the next decade will be one of continuing falling prices somewhat similar to the period following the civil war. If this is accepted as probable it must then follow that the industrial growth will not be of the bonanza variety but rather a steady development based largely upon parallel development in agricultural lines.

Growth in Population

Upon this assumption it would seem that the growth of Michigan would not be as great during the next decade as from 1910 to 1920. In estimating the probable 1930 population it was necessary to flatten somewhat the curve of the last decade.

The 1910 population was 11.9% more than in 1900 and the 1920 population was 51.5% greater than in 1900. Considering the probable economic situation as a depressant, and immigration, if the three per cent law is retained, as almost negligible, the basis used in estimating was the 1921 net increase of 51,198 in population.[3] Carrying out the curve upon this basis would give Michigan a 1930 population of 4,260,840, or 592,428 more than in 1920.

This estimate is very conservative. An industrial boom, an increase in immigration, development of the lakes-to-the-sea waterway or a number of other factors might result in a much greater increase. These data appear in Table 81.

TABLE 81—GROWTH IN MICHIGAN POPULATION

Year	Population	Increase over 1900	Per cent increase over 1900
1900	2,420,982	.....	.....
1910	2,810,173	389,191	11.9
1920	3,668,412	1,247,430	51.5
1930*	4,260,840	1,839,858	76.0

*Estimated.
[1]—Public Acts of 1921—No. 302, pp. 560-563.
[2]—Public Acts of 1921—No. 186, pp. 368-372.
[3]—Public Health—March, 1922, Vol. X, No. 3, also Appendix, Table LXIII.

Probable School Population

The next fact to be considered is how great a portion of this growth will be school population.

A study[1] of the relation between school and total population since 1870 reveals the fact that the average for the last 50 years is 32%. This ratio has changed, however, to 30.4% in 1910 and to 28.8% in 1920. The explanation for this may be found in two factors: (1) the declining birth rate among the native whites, and (2) a tremendous industrial boom in Michigan from 1910 to 1920. This brought with it a large amount of immigration, both native and foreign. This migratory element was young and unmarried and its presence soon outbalanced the ordinary age relationships. There was an excess of adults more than 20 years old over minors from 5 to 20 years. This situation is changing and the families of this younger population will tend to restore the balance in the next decade. Detroit furnishes an excellent illustration. Despite the fact that the adult population has actually declined the school population and school attendance has increased at the regular rate and the large age groups below five indicate that this growth will continue for a number of years.

Upon the basis of this experience and the knowledge of the factors involved it is reasonable to assume that in 1930 the school population will be 32% of the total population or 1,363,468, an increase of 72.5% since 1900. This is shown in Table 82.

TABLE 82—GROWTH OF SCHOOL POPULATION[2]

Year	School population	Increase over 1900	Per cent increase over 1900
1900	790,275	.....	.....
1910	854,710	64,435	8.1
1920	1,048,390	258,115	32.6
1930*	1,363,468	573,193	72.5

*Estimated.

Probable School Attendance

The average per cent[3] of the school population attending school since 1870 is 72. The continued operation of the compulsory attendance laws and the development of the continuation laws will probably tend to raise this ratio by 1930.[4] In estimating the probable school population, however, it is desirable to use the more conservative average of 72%.

Upon this assumption there will probably be in school 981,696 children in 1930. The data on probable attendance appear in Table 83.

TABLE 83—GROWTH OF NUMBER ATTENDING SCHOOL

Year	Number attending school	Increase over 1900	Per cent increase over 1900
1900	464,726	.....	.....
1910	558,126	93,400	20.1
1920	710,341	245,615	52.9
1930*	981,696	516,970	111.1

*Estimated.
[1]—See Appendix, Table LXIV.
[2]—See Appendix, Table XLV.
[3]—See Appendix, Table XLIV.
[4]—See Appendix, Table XLVI.

The actual and estimated growth curves are shown in the following diagram:

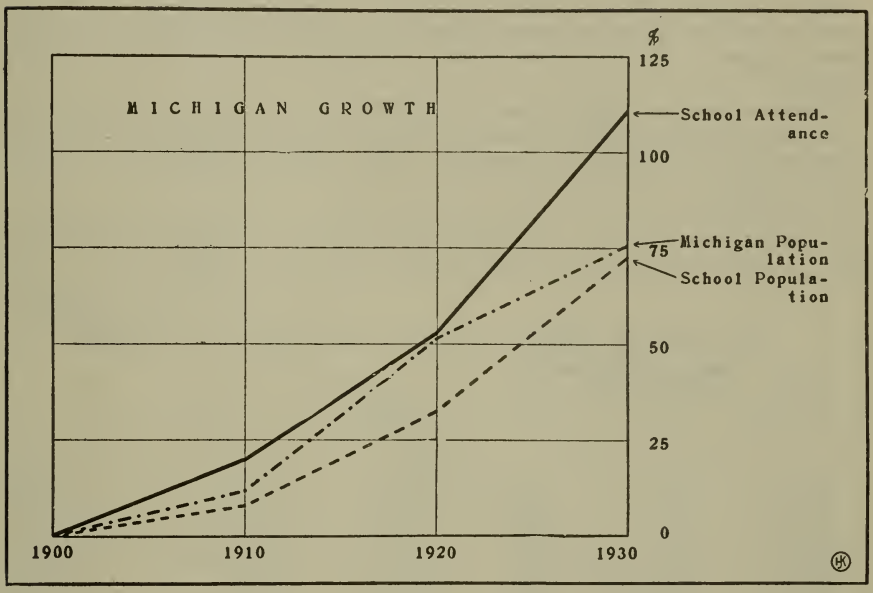


DIAGRAM 41

Probable Public School Attendance

The distribution of the children attending school between public and non-public schools has maintained the same relative proportions since 1911-12. In general 88% of the children in 1930 will probably be in public schools and 12% in non-public schools.

Upon this assumption there will probably be 863,892 children in public schools in 1930.

TABLE 84—DISTRIBUTION OF CHILDREN IN PUBLIC AND NON-PUBLIC SCHOOLS

Year	No. children in public schools	No. children in non-public schools	Total children in public and non-public schools	Per cent in public schools	Per cent in non-public schools
1911–12.....	555,137	68,391	623,528	89.0	11.0
1912–13.....	572,201	66,917	639,118	89.5	10.5
1913–14.....	581,351	76,266	657,617	88.4	11.6
1914–15.....	598,159	79,023	677,182	88.3	11.7
1915–16.....	620,861	72,780	693,641	89.5	10.5
1916–17.....	635,020	78,985	714,005	88.9	11.1
1917–18.....	655,941	90,805	746,746	87.8	12.2
1918–19.....	655,941	95,515	751,456	87.3	12.7
1919–20.....	662,521	90,805	753,326	88.0	12.0

Increase in Teachers

The proportionate increase in the number of teachers since 1911-12 has been greater than that in school attendance. This is largely due to the decrease in size of classes. The pupil-teacher ratio[1] in 1911-12 was 29.5 and in 1919-20 was 24.7.

Upon the previous assumption of an 863,892 school attendance, and using a pupil-teacher ratio of 25, the number of teachers required by the public schools in 1930 would be approximately 36,706. This is shown in Table 85 and the following diagram:

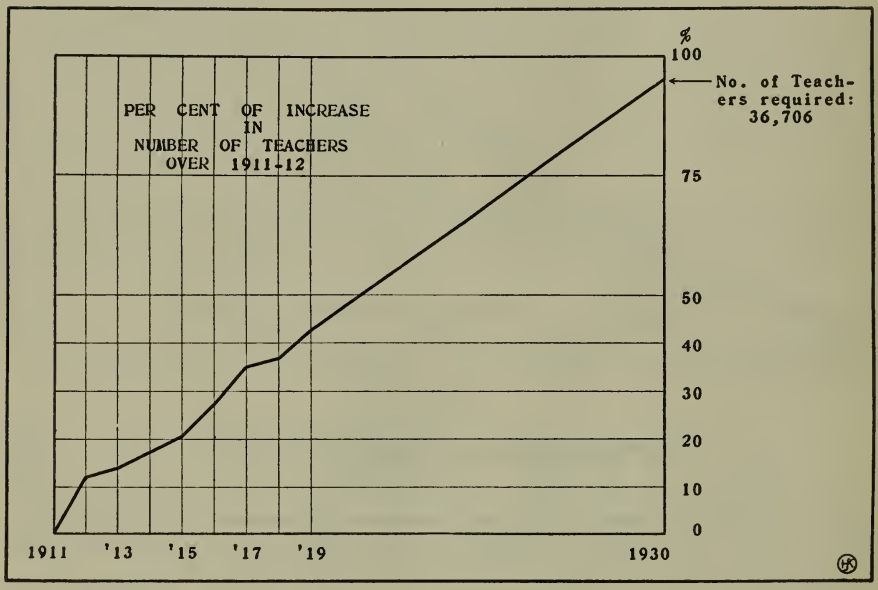


DIAGRAM 42

TABLE 85—INCREASE IN NUMBER OF TEACHERS

Year	Number of teachers[2]	Increase over 1911–12	Per cent increase
1911–12	18,824	.....	.....
1912–13	21,090	2,266	12.0
1913–14	21,401	2,577	13.7
1914–15	22,050	3,226	17.1
1915–16	22,710	3,886	20.6
1916–17	23,969	5,145	27.3
1917–18	25,442	6,618	35.2
1918–19	25,708	6,884	36.6
1919–20	26,840	8,016	42.6
1930–31*	36,706	17,882	95.0

*Estimated.
[1]—See Appendix, Table LXVII.
[2]—Report of Superintendent of Public Instruction.

Probable Demand by Years

The new teacher problem is further complicated by the number of replacements required annually to take the place of teachers who die, retire because of age or enter other fields. No detailed study of this problem has been made for the state but Detroit records[1] are available for seven years and these show variations from 4.1% to 10.3%, but the average in normal years seems to rest somewhere between 5% and 6%. It is the general feeling that this is somewhat higher for the state as a whole. For the purposes of this study 6% has been taken as a basis upon which to estimate the probable requirements. It is assumed that the curve of teacher demand from the present until 1930 will be fairly regular. Upon this assumption the 1922-23 demand for new teachers and replacements will be approximately 2,700 and in 1930 will be approximately 3,000. These estimates are shown in Table 86.

TABLE 86—PROBABLE DEMAND FOR TEACHERS*

Year	Per cent	No. of teachers	New positions by years	Six per cent replacement	Total teacher requirements
1919–20.....	42.6	26,843	.....	1,611	1,611
1920–21.....	46.0	27,483	640	1,649	2,289
1921–22.....	50.0	28,236	753	1,694	2,447
1922–23.....	55.0	29,177	941	1,751	2,692
1923–24.....	60.0	30,118	941	1,807	2,748
1924–25.....	65.0	31,060	942	1,864	2,806
1925–26.....	70.0	32,000	940	1,920	2,860
1926–27.....	75.0	32,942	942	1,977	2,919
1927–28.....	80.0	33,883	941	2,033	2,974
1928–29.....	85.0	34,824	941	2,089	3,030
1929–30.....	90.0	35,766	942	2,146	3,088
1930–31.....	95.1	36,706	940	2,192	3,132

*Note: This estimate is very conservative. Estimates made by several county commissioners place the teacher turnover at 16 per cent. This would make the total for the state approximately 11 per cent. If these estimates were used as a base, the 1930 teacher demand would be approximately 5,000. This was considered in making the above estimate, and it is reckoned in this case that the small denominational colleges of the state, the county normals and institutions in other states would be able to supply the difference between the estimated and actual demand. On the other hand, consolidation of rural schools may result temporarily in a certain amount of slack.

1—See Appendix, Table LXII.

Chapter XIX—Production of Teachers

There are four public teacher-producing agencies in the state. These are the School of Education, University of Michigan, the state normal schools, the Michigan Agricultural College, and the Detroit Teachers College.

In 1910-11 these institutions graduated 1,060 teachers. In 1916-17 they graduated 2,273 teachers or an increase of 114.4%. The succeeding years show the effects of the war and since 1917-18 the number of new teachers has been only 63% greater than in 1910-11. During the early part of this period the teacher shortage was acute. Towards the end, liberal salary adjustments brought many teachers from other states not so fortunate and also increased the number of limited certificates granted.

The graduates of the University are all degree people and are absorbed by the larger high schools. The normal schools produced 15,400 teachers since 1910-11 and of these 13.1% had one year of training, 77.5% had two years, 5.1% had three or four years and 4.3% were enrollments who had not been graduated from state high schools.[1] They were absorbed by the rural schools, elementary schools and the smaller high schools. The graduates of Michigan Agricultural College were largely subject specialists and have been placed in home economics, manual training, agriculture, and related subjects.

These data on the number of teachers appear in the following diagram and table:

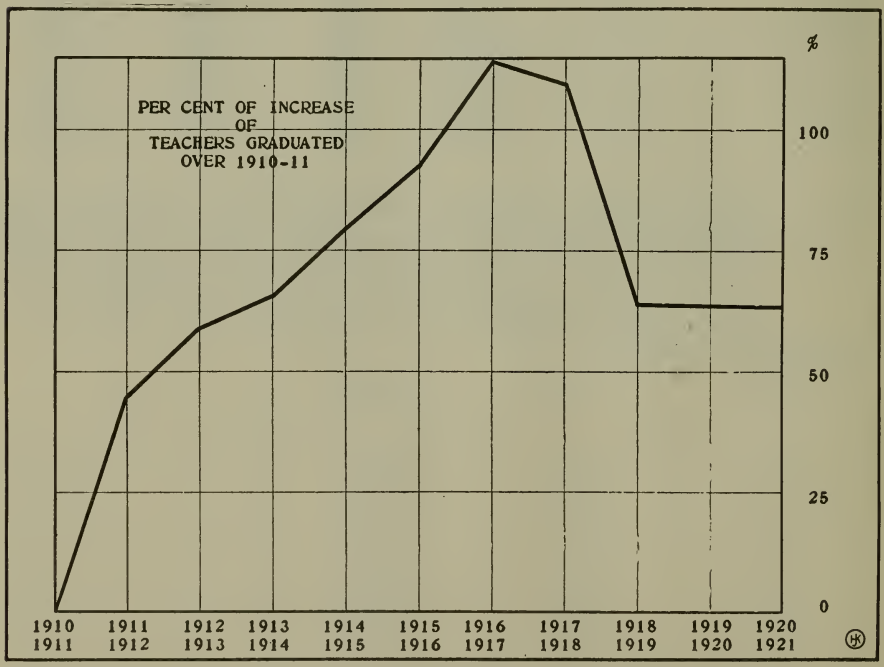


DIAGRAM 43

[1]—See Appendix, Tables XV to XVIII.

TABLE 87—NUMBER OF TEACHERS GRADUATED BY YEARS

Year	Univ. of[1] Michigan	State[2] normal Schools	Detroit[3] Teachers College	Michigan[4] Agricult. College	Totals	Increase over 1911	% inc. over 1911
1910–11.....	145	830	52	33	1,060	.....	.....
1911–12.....	137	1,257	68	71	1,534	474	44.7
1912–13.....	142	1,392	70	82	1,686	626	59.1
1913–14.....	168	1,417	56	113	1,754	694	65.5
1914–15.....	221	1,516	31	135	1,903	843	79.5
1915–16.....	226	1,603	53	158	2,040	980	92.5
1916–17.....	240	1,800	64	169	2,273	1,213	114.4
1917–18.....	238	1,709	176	99	2,222	1,162	109.7
1918–19.....	180	1,349	130	79	1,738	678	63.9
1919–20.....	189	1,275	144	126	1,734	674	63.6
1920–21.....	200	1,252	191	87	1,730	670	63.2
Totals.....	2,086	15,400	1,036	1,152	19,674		

A study of the preceding table shows that the total teacher production in 1920-21 was 1,730. The probable demand in 1930 will be for 3,132 teachers. The operation of the new law[5] regarding teacher training will make it necessary for every teacher after 1925 to have at least one year of professional training. The teachers required by 1930 must all be trained in one of the state institutions. This means that the total state teacher product must be increased by 81% over 1920-21 if the demand is to be met.

Assuming that the general conditions of the past are a fair criterion for the future it is then probable that these teachers will be produced at the following rates:[6]

University of Michigan	375
State Normal Schools	2,255
Detroit Teachers College	345
Michigan Agricultural College	157
Total	3,132

The 1920-21 product of the State normal schools totaled 1,252. The 1930 requirements will be 2,255 teachers or 1,003, 80.1%, more than in 1920–21. This means that the registration of the state normal schools in 1930 will probably be as follows:

Michigan State	2,500
Western State	2,500
Central State	1,000
Northern State	1,000
Total	7,000

1—For details see Appendix, Table LXXVII.
2—For details see Appendix, Table XV–XVIII.
3—For details see Appendix, Table LXXV.
4—For details see Appendix, Table LXXVI.
5—Public Acts of 1921, No. 186, pp. 368–372.
6—For details see Appendix, Table LXXIX.

Chapter XX—The Need for Land

The need at each college is for sufficient land not only to permit the proper placement of college buildings but also that of dormitories and provision for recreational facilities. The proper grouping of all college buildings around a campus on the quadrangle plan, allowing for open spaces within, tends to develop a group spirit and morale that is very desirable for any college.

The minimum land requirements for a normal school are 40 acres. The desirable size would range somewhere between 60 acres and 100 acres to allow for growth and development. It is desirable to secure this land early before the development of the city makes the price prohibitive. Another advantage gained by early purchase of the entire plot is that it will permit the proper planning and development to produce a unified whole that will serve as a community inspiration as well as serve the more practical purposes of the school.

At the present time the schools are provided as follows:

Michigan State	65 acres
Western State	46 acres
Central Normal	25.8 acres
Northern State	20.8 acres

The immediate needs for land are:

At least 12 more acres should be acquired at Western State to meet the needs of this rapidly growing institution. Much of the present campus is quite unavailable for building purposes because of the slope of the land.

Twenty acres should be acquired at Central Normal. This land is still comparatively cheap and one section is still without buildings. This would give the Mt. Pleasant school enough land to care for its growth during the next decade.

Northern State is most poorly equipped in respect to land. At least 20 acres should be acquired immediately to round out the campus and provide for the necessary buildings within the next decade.

Michigan State has the best developed campus. There is still some land to the south of the present holdings that might well be added and used for dormitory sites. For the larger portion of this the college now has an appropriation of $57,000. It is highly desirable that the lot on the corner of Brower and Cross streets be acquired and the building razed.

Chapter XXI—Plant Requirements of Teacher Training Schools

Considerable attention has been paid to the architectural development of our colleges and universities. This is highly desirable, for one of the aims of the higher schools should be the presentation to the eye of the school ideals and standards, as visualized through the brick and stone that forms its buildings and the trees and greens that surround it.

It is equally true that little or no attention has been given to the planning of the buildings for their educational use or in the economical planning of room and corridor size to secure the best returns for the expenditures involved.

This neglect of general educational planning, as differentiated from elevation design, has resulted in poorly balanced and poorly used buildings. Within the last four years the writer has studied the room use of several of the larger universities and found several buildings on each campus in which scarcely a room was in use more than two hours daily. Certain buildings have been evidently designed by department specialists who had little knowledge of the needs of the school as a whole and this has consequently resulted in a whole that is out of balance.

Hundreds of thousands of dollars have been wasted in excess classroom and corridor space. At the present time, even with their great growth, it is doubtful whether many universities and colleges can show an actual use in relation to standard capacity of more than 25%.

This condition is now general. Where it exists little remedy can be offered save in the better administration of present facilities but in view of post war conditions and in the interest of better economy in the spending of public moneys future additions to state institutions should be planned carefully, upon the basis of a definitely defined educational policy, to prevent recurrence of such conditions.

The study of school needs which follows is based upon the assumption that the state can reasonably expect that a building will be used at least 44 hours a week, that 80% of the rooms will be used, and that the relation of use to standard capacity will be at least 50%.

This proposed standard of use is not unreasonable. It is true that it is contrary to academic tradition and the commonly accepted room per teacher practice. It will work no hardship to ask the acceptance of this standard. Its application would provide colleges and universities with additional capacities they had not suspected. In general it would result, assuming that the present buildings are in balance, in increasing the usable capacity three times.

The present application of this problem is to the state normal schools. The needs of these schools for space were ascertained in the following manner. The students' class programs[1] were studied for several terms at each school as well as the curriculum set forth in the annual reports. A percentage distribution by subjects was secured from these studies that would generally apply at any one time. It was assumed that the average student load would be 16 hours weekly and that those who carried slightly more would be compensated by those who carried less than full work. It was also assumed that every student would be required to take work in health education, making a probable average of 20

1—For detailed tables see Appendix, Tables LI and LII.

hours weekly or five subjects. Using this as a basis the class membership would at any one time be five times greater than the membership for the college.

It may be questioned whether this is the ideal distribution. It probably is only in so far as the present curriculum may be said to function in respect to present objectives. This survey did not include an investigation of curricular activities, organization, or content. These were assumed to be functioning properly. The distribution of this membership by subject in per cents was weighted to meet the requirements of the base and the probable demand at any time in units of various sizes was developed. These data appear in Table 88. This table should be read as follows: A school with a 500 membership would have a possible demand in any one week for 350 in education, 500 in health education, 325 in English, 100 in foreign languages, etc. The demand for schools of various sizes may be found in successive columns.

TABLE 88—DISTRIBUTION OF MEMBERSHIP BY SUBJECT

	Per cent distribution	College membership					
		500	1,000	1,500	2,000	2,500	3,000
Education	70	350	700	1,050	1,400	1,750	2,100
Health	100	500	1,000	1,500	2,000	2,500	3,000
Languages							
English	65	325	650	975	1,300	1,625	1,950
Foreign	20	100	200	300	400	500	600
Library Methods	20	100	200	300	400	500	600
Exact Sciences							
Mathematics	20	100	200	300	400	500	600
Physics	5	25	50	75	100	125	150
Chemistry	5	25	50	75	100	125	150
Agriculture	5	25	50	75	100	125	150
Botany	5	25	50	75	100	125	150
Zoology	5	25	50	75	100	125	150
Nature Study	5	25	50	75	100	125	150
Biology	5	25	50	75	100	125	150
Qual. Analysis	5	25	50	75	100	125	150
Heredity	5	25	50	75	100	125	150
Elem. Science	10	50	100	150	200	250	300
Physiology	15	75	150	225	300	375	450
Astronomy	5	25	50	75	100	125	150
Social Sciences	40	200	400	600	800	1,000	1,200
Vocational							
Commercial	20	100	200	300	400	500	600
Home Economics	10	50	100	150	200	250	300
Mechanic Arts	10	50	100	150	200	250	300
Fine Arts							
Music	25	125	250	375	500	625	750
Art	25	125	250	375	500	625	750
Totals	500	2,500	5,000	7,500	10,000	12,500	15,000

A suggested standard for class size was discussed earlier in this report.[1] From this standard an average figure was developed that could be applied simply as a general index. With the probable membership as shown in the preceding table, and the average size of class it was a simple matter to determine the class needs. This is shown in Table 89.

1—Part I, Chapter IX.

This table should be read as follows: A school of 500 would have a weekly demand for 12 classes in education, 8 in health, 13 in English, 4 in foreign languages, etc. The requirements for schools of different size may be found in successive columns.

TABLE 89—CLASS REQUIREMENTS FOR THE NORMAL SCHOOLS

	Average size of class	Number of classes needed					
		Size of school					
		500	1,000	1,500	2,000	2,500	3,000
Education	30	12	23	35	47	58	70
Health	60	8	16	25	33	41	50
Languages							
English	25	13	26	39	52	65	78
Foreign	25	4	8	12	16	20	24
Library Methods	25	4	8	12	16	20	24
Exact Sciences							
Mathematics	25	4	8	12	16	20	24
Physics	25	1	2	3	4	5	6
Chemistry	25	1	2	3	4	5	6
Agriculture	25	1	2	3	4	5	6
Botany	25	1	2	3	4	5	6
Zoology	25	1	2	3	4	5	6
Nature Study	25	1	2	3	4	5	6
Biology	25	1	2	3	4	5	6
Qual. Analysis	25	1	2	3	4	5	6
Heredity	25	1	2	3	4	5	6
Elem. Science	25	2	4	6	8	10	12
Physiology	25	3	6	9	12	15	18
Astronomy	25	1	2	3	4	5	6
Social Sciences	30	7	13	20	27	33	40
Vocational							
Commercial	20	5	10	15	20	25	30
Home Economics	20	3	5	8	10	13	15
Mechanic Arts	20	3	5	8	10	13	15
Fine Arts							
Music	25	5	10	15	20	25	30
Art	25	5	10	15	20	25	30
Totals		88	172	261	347	433	520

The next step consisted of working out the room sizes upon the results of the best recent research.[1] A uniform width of 22 feet was chosen as being most effective from the standpoint of light and of teaching. A standard classroom, 22′x29′, which provides for 35 students, is suggested. Science lecture rooms, 22′x34′, will provide a standard capacity of 40. Laboratories, 22′x34′, will provide a standard capacity of 30. These will all be designed so that changes in organization due to growth or development could be made at minimum expense.

The classroom requirements were determined upon the basis of membership and demand for classes. These standards are set forth for the several size schools

1—Excellent work on standardization of classrooms and school buildings generally has been done by Arthur L. Weeks, sometime Research Architect for the Detroit Bureau of Municipal Research and the Detroit Public Schools.

in Table 90. In studying this table it should be noted that no auditorium is specified until the school approaches a 1,500 membership. Up to this point it is perfectly feasible to use the gymnasium for this purpose. Until the membership approaches 1,500 only one gymnasium is specified, for the capacity of a 40'x60' gymnasium is well able to care for both men and women up to this size. Proper provision for locker and shower accommodations has been included.

A library is specified beginning with the smallest unit, but until the school approaches 1,500 no separate structure is urged. Provision can well be made prior to that time to house this in the administration building.

Table 90 should be read as follows: A school with a 500 membership requires 8 classrooms, 2 science lecture rooms, etc.

TABLE 90—CLASSROOM REQUIREMENTS OF NORMAL SCHOOLS

Type of room	Size of room	Membership or size					
		500	1,000	1,500	2,000	2,500	3,000
Classrooms	22x29	8	14	21	24	31	38
Science Lecture rooms	22x33	2	2	3	3	4	4
Library Lecture rooms	22x29		1	1	2	2	2
Laboratories							
Psychology	22x34	1	1	1	1	2	2
Physics	22x34			1	1	1	1
Chemistry	22x34	1	1	1	2	2	2
Botany	22x34	1	1	1	1	1	1
Biology	22x34			1	1	1	1
Agriculture	22x34				1	1	1
Geography	22x34	1	1	1	2	2	2
Elem. Science	22x34				1	1	1
Physiology	22x34			1	1	1	1
Vocational Laboratories							
Bookkeeping	22x34		1	1	1	1	2
Typewriting	22x34				1	1	1
Classroom	22x29	1	1	1	1	1	1
Home Economics	22x34	1	1	2	2	2	2
Mech. Drawing	22x34		1	1	1	1	1
Shop	22x34	1	1	2	2	2	2
Music	22x34	1	1	2	3	3	4
Art	22x34	1	1	2	3	3	4
Gymnasium	40x60	1	1	2	2	2	2
Library	.....	1	1	1	1	1	1
Auditorium	.....			1	1	1	1

The next question that arises is how do the standards set up check against possible use. This is answered in Table 91. For a 500 unit, 37,400 standard capacity per week is provided. The needs are for 14,400 capacity. The use would be 38%.

For a 1,000 unit 55,220 capacity is provided and 28,800 required. The use would be 52%.

For a 1,500 unit 81,400 capacity is provided and 43,200 needed. The use would be 53%.

For a 2,000 unit 108,000 capacity is provided and 57,600 required. The use would be 53%.

For a 2,500 unit the provided capacity is 124,680 and the need 72,000. The use would be 57%.

For a 3,000 unit the provided capacity is 143,060 and the need 86,400. The use would be 60%.

From this it is at once apparent that the standards set are not only sufficient for the needs at the several size schools but elastic enough to care for midway points. The relation of the required use for a 1,000 unit in relation to the provisions for a 500 unit is 77%, and for the successive sizes is 78%, 70%, 66% and 69%. Generally speaking it would not be necessary to add to the 500 unit until the membership was greater than 750, and under critical conditions not until such membership was between 900 and 1,000. Table 91:

TABLE 91—CAPACITY AND REQUIREMENTS

Type of room	Capacity	Membership or size					
		500	1,000	1,500	2,000	2,500	3,000
Classrooms	35	12,320	21,560	32,340	36,960	7,740	58,520
Science lecture rooms	35	3,080	3,080	4,620	4,620	6,160	6,160
Library lecture rooms	35	.....	1,540	1,540	3,080	3,080	3,080
Laboratories							
Psychology	30	1,320	1,320	1,320	2,640	2,640	2,640
Physics	30	.....	.....	1,320	1,320	1,320	1,320
Chemistry	30	1,320	1,320	1,320	2,640	2,640	2,640
Botany	30	1,320	1,320	1,320	1,320	1,320	1,320
Biology	30	.....	.....	1,320	1,320	1,320	1,320
Agriculture	30	.....	.....	.....	1,320	1,320	1,320
Geography	30	1,320	1,320	1,320	2,640	2,640	2,640
Elem. Science	30	.....	.....	.....	1,320	1,320	1,320
Physiology	.....	.....	.....	1,320	1,320	1,320	1,320
Vocational Labs.							
Bookkeeping	30	.....	1,320	1,320	1,320	1,320	2,640
Typewriting	30	.....	.....	.....	1,320	1,320	1,320
Classroom	35	1,540	1,540	1,540	1,540	1,540	1,540
Home Economics	30	1,320	1,320	2,640	2,640	2,640	2,640
Mech. Drawing	30	.....	1,320	1,320	1,320	1,320	1,320
Shop	30	1,320	1,320	2,640	2,640	2,640	2,640
Music	35	1,540	1,540	3,080	4,620	4,620	6,160
Art	30	1,320	1,320	2,640	3,940	3,940	4,280
Gymnasium	120	5,280	5,280	5,280	10,560	10,560	10,560
Library	Varies	4,400	8,800	13,200	17,600	22,000	26,400
Auditorium							
Total Capacity		37,400	55,220	81,400	108,000	124,680	143,060
Total Use		14,400	28,800	43,200	57,600	72,000	86,400
Per Cent Use		38	52	53	53	57	60

The administrative requirements for these schools would not vary much from a 1,000 to a 3,000 unit. It would be advisable to provide for all of them at the beginning in order to develop a well organized administrative unit. These are:

Type	Dimensions	No.
Reception room	22x15	1
General office	22x40	1
Registrar's office	22x29	1
President's office	22x29	1
Records and files	22x34	1
Bookstore	22x29	1
Director's offices	22x12	6
Dept. heads' offices	22x12	7
Committee room	22x29	1
Faculty rooms	22x29	6
Students' activities	22x29	2

Locker and shower rooms and general accessories such as dark rooms and storage rooms are provided in the general plan and need not be detailed here.

The library requirements are 20% of the school membership. A 500 unit would require a 100 library capacity.

The library is designed as part of the administration building until the membership reaches 1,500 when the ultimate plant may be safely erected.

The ultimate auditorium is planned to seat a maximum of 1,500, approximately half of the ultimate student body. It would not be sound policy to design an auditorium to provide a seat for every student at one time. The infrequent use would make such an undertaking expensive and hard to justify. An auditorium that can care for one-third of the student body at a single seating is generally satisfactory in every respect. A larger auditorium might possibly be justified from the standpoint of combined educational and civic use. This is a matter of policy to be decided by the State authorities. The requirements developed here are on the basis of educational use.

Chapter XXII—Plant Needs of the Normal Schools

What will be the needs of the state schools by 1930 in respect to college buildings?

The state should provide accommodations at the several schools for the following numbers:

Michigan State	2,500
Western State	2,500
Central Michigan	1,000
Northern State	1,000

The present plants compared with the requirements will be discussed by individual schools.

Michigan State Normal College

The present plant has a usable capacity of 4,500[1]. There are, however, several inadequacies. These are the library, and the center and rear wing of the main building. These should be razed just as soon as possible and the following replacements made to suit the demand.

A library with a usable capacity of 600, and two classrooms should be constructed at an early date.

The elimination of the central and rear wings of the main buildings will reduce the room total by 27. Twenty-six are classrooms.

The new building erected in place of the rear and center wing should furnish the following: 13 classrooms and 3 commercial laboratories.

The actual need for additional classrooms is eight but the rest of the first floor of the administration building should be developed to serve as faculty and administrative offices and as meeting rooms for the students and the development of another art room on the second floor will call for a classroom replacement.

The basement of the administrative building is inadequate for shop purposes. These should be provided for in a small manual arts building as specified in the building program.

The addition of these units will provide enough capacity for a 2,500 student college.

The college is already well equipped in respect to auditorium, gymnasium and science units. It will require a new heating plant to replace the present one which is not only obsolete but expensive to operate and maintain.

The present plant and the requirements are shown in the following table:

1—See Part II, Chapter VIII.

TABLE 92—BUILDING NEEDS—MICHIGAN STATE NORMAL COLLEGE

Type of room	Present plant	Requirements	Present excess	Needs
Classrooms	45	31	14	.....
Science lecture rooms	9	4	5	.....
Library lecture rooms	.....	2	.....	2
Laboratories	12	.....	.....	.....
Psychology	.....	2	.....	.....
Physics	.....	1	.....	.....
Chemistry	.....	2	.....	.....
Botany	.....	1	.....	.....
Biology	.....	1	.....	.....
Agriculture	.....	1	.....	.....
Geography	.....	2	.....	.....
Elementary Science	.....	1	.....	.....
Physiology	.....	1	.....	.....
Vocational Laboratories				
Bookkeeping	.....	1	.....	1
Typewriting	.....	1	.....	1
Classroom (commerce)	.....	1	.....	1
Home Economics	1	2	.....	2
Mechanical Drawing	.....	1	.....	1
Shops	2[1]	2	.....	2
Music	5	3	2	.....
Art	1	3	.....	2
Gymnasium	2	2	.....	.....
Auditorium	1	1	.....	.....
Library	1[2]	1	.....	1

1—Now housed in basement.
2—Inadequate.

Western State Normal School

The present plant at Western State is poorly balanced. As it stands it has a usable capacity of 2,200. There is much excess capacity in laboratories and shops. There is a shortage of classrooms, faculty and student quarters.

The library now planned will be large enough for a school of 2,500. It will not be necessary to provide additional reading room space in other portions of the plant. The present library can be developed as faculty quarters and administrative offices.

An auditorium should also be provided together with a second gymnasium for men. Three music classrooms may be developed in conjunction with the auditorium. A new recitation building should provide for 16 classrooms, three commercial laboratories, two art studios, an art exhibit room, a domestic art and domestic science rooms. The training school needs are for a combination intermediate and high school. The present accommodations and needs are shown in the following table:

TABLE 93—BUILDING NEEDS, WESTERN STATE NORMAL SCHOOL

Type of room	Present plant	Requirements	Excess	Needs
Classrooms	17	31	.....	16[1]
Science lecture rooms	10	4	6	.....
Library " "	.....	2	.....	2
Laboratories	13	.....	1	.....
Psychology	.....	2	.....	.....
Physics	.....	1	.....	.....
Chemistry	.....	2	.....	.....
Botany	.....	1	.....	.....
Biology	.....	1	.....	.....
Agriculture	.....	1	.....	.....
Geography	.....	2	.....	.....
Elem. Science	.....	1	.....	.....
Physiology	.....	1	.....	.....
Vocational Laboratories				
Bookkeeping	.....	1[2]	.....	1
Typewriting	.....	1[2]	.....	1
Classroom (commerce)	.....	1[2]	.....	1
Home Economics	2	2	.....	2[2]
Mechanical Drawing	1	1	.....	.....
Shops	7	2	.....	.....
Music	.....	3	.....	3
Art	1	3	.....	2
Gymnasium	1	2	.....	1
Auditorium	.....	1	.....	1
Library	1[3]	1	.....	1

[1]—Replace two undesirable basement rooms.
[2]—Inadequate. These are basement rooms.
[3]—Inadequate.

Central Michigan Normal School

The present plant has a usable capacity for approximately 2,000 students. There is an excess of 9 classrooms and 5 laboratories on the 1,000 unit basis. There are, however, adjustments of this space that must be made to balance the plant.

The needs will be for two commercial laboratories, a home economics room, a shop, a mechanical drawing room, and an art room. More office space for the faculty must also be provided. The excess rooms can easily be changed to meet these requirements as they arise.

There is need, however, for increased space for library purposes. The present capacity is 90. The need will be for a 200 library capacity. This can be provided by adding to the present wing in which the library is housed. The present accommodations and requirements are shown in the following table:

TABLE 94—BUILDING NEEDS, CENTRAL MICHIGAN NORMAL SCHOOL

Type of room	Present plant	Requirements	Excess	Needs
Classrooms	16	14	2	.....
Science lecture rooms	9	2	7	.....
Library " "	.....	1	.....	1
Laboratories	9	.....	5	.....
Psychology	1	1	.....	.....
Physics	2	.....	.....	.....
Chemistry	2	1	.....	.....
Botany	.....	1	.....	.....
Biology	1	.....	.....	.....
Agriculture	2	.....	.....	.....
Geography	1	1	.....	.....
Elementary Science	.....	.....	.....	.....
Physiology	.....	.....	.....	.....
Vocational Laboratories				
Bookkeeping	.....	1	.....	1
Classroom (commerce)	.....	1	.....	1
Home Economics	.....	1	.....	1
Mechanical Drawing	.....	1	.....	1
Shops	.....	1	.....	1
Music	2	1	1	.....
Art	.....	1	.....	1
Gymnasium	1	1	.....	.....
Library	1	1	.....	1
Auditorium	.....	.....	.....	.....

Northern State Normal School

Northern State Normal school has a usable capacity in the present plant of 1,000. There exists, however, a lack of balance that will require certain adjustments. There is an excess of science lecture rooms and a lack of regular classrooms. There will also develop the need for two commercial laboratories, one home economics laboratory and quarters for the faculty. The library is adequate for the present registration. A new elementary training school should be provided and the wing now so occupied transformed into class rooms, a library reading room and vocational laboratories.

TABLE 95—BUILDING NEEDS, NORTHERN STATE NORMAL SCHOOL

Type of room	Present plant	Requirements	Excess	Needs
Classrooms	9	14	.....	5
Science lecture rooms	6	2	4	.....
Library " "	.....	1	.....	1
Laboratories	5	.....	1	.....
Psychology	.....	1	.....	.....
Physics	.....	.....	.....	.....
Chemistry	.....	1	.....	.....
Botany	.....	1	.....	.....
Biology	.....	.....	.....	.....
Agriculture	.....	.....	.....	.....
Geography	.....	1	.....	.....
Elementary Science	.....	.....	.....	.....
Physiology	.....	.....	.....	.....
Vocational Laboratories				
Bookkeeping	.....	1	.....	1
Classroom (commerce)	.....	1	.....	1
Home Economics	.....	1	.....	1
Mechanical Drawing	1	1	.....	.....
Shops	2	1	1	.....
Music	1	1	.....	.....
Art	1	1	.....	.....
Gymnasium	1	1	.....	.....
Auditorium	1	.....	.....	.....
Library	1	1	.....	.....

Chapter XXIII—Dormitories

One of the great needs of the state normal schools is the development of a dormitory and commons system to house girl students. There are numerous arguments, economic, social and professional, in favor of this, and all are of equal importance. They will be discussed in turn.

The greater number of normal school students come from families in very moderate circumstances and are forced to earn their own way partially or wholly. The state should provide means whereby these students could be given food and rooms at actual cost, and reduce the burden to some extent.

Each school should attempt to reproduce as closely as possible wholesome home influence in the life of the student body, particularly when that group is composed largely of young women. This cannot be accomplished under present conditions where girls room and board in houses near the campus.

Social contacts are difficult to make and voids are created by the absence of home life that may affect the future of these girls seriously. The housing of groups in dormitories where they live and eat together under the capable social leadership of a director and are provided with facilities for entertainment and recreation is the only practical solution of this serious problem. Here they are afforded an opportunity for social development under normal conditions.

It is quite important professionally that all of the prospective teachers live under standards and conditions that will assist them later in their profession to help raise the living conditions among the children with whom they come into contact. Two years or more of living under the average boarding and rooming house conditions that obtain in any of the normal school cities will not be conducive to the development of such standards.

For economic, social and professional reasons it is vitally important that the state provide at an early period dormitories and commons for the state normal schools.

Much has been written about the proper size of unit for dormitories and the extreme opinions range from groups of 40 or 50 upon the cottage plan to 200 upon the large unit plan. The University of Michigan experience tends to the belief that the most economic unit is approximately 85. . Any unit between 85 and 170 would not result in the greatest economy from the standpoint of operative expense. From a social standpoint the smaller unit is preferable.

The general practice is for the college to furnish light, heat and maintenance and furnish room and board to the students upon the basis of actual cost minus these three items. At the University of Michigan only light and heat is furnished by the University. Other colleges further reduce costs by allowing the girls to care for their own rooms and for some to earn their board by waiting on table. A well-conducted dormitory system at the present time should be able to produce room and board at approximately $20 per month per student if the college carries the items of heating, lighting, salary of matron, and maintenance.

The cost of erecting dormitories, based upon experience at other colleges, at present prices, is approximately $1,000 per student,[1] or $170,000 for a unit of 170.

The development of a building program covering a period of years rests upon present data and conditions and possible determining future factors. The dormitory building program was set up with the qualification that the necessary adjustments be made at the beginning of any two-year period upon the basis of changed conditions. In general these recommended buildings will provide for not more than 60% of the membership.

The suggested dormitory building program, using the 170 unit as a basis, follows:

TABLE 96—DORMITORY BUILDING PROGRAM

	Michigan	Western	Central	Northern	Total Approximate cost
1923–24	1	1	1	1	$680,000
1924–25	1	1	1	1	680,000
1925–26	1	1	1	1	680,000
1926–27	1	1	.....	.....	340,000
1927–28	2	2	.....	.....	680,000
1928–29	2	2	.....	.....	680,000
1929–30	.....	.....	.....	.....	.....
Approximate cost					$3,740,000

[1]—Dormitories are now under contract in Ann Arbor showing a per student cost of $917.00.

Chapter XXIV—Organization of a State Teachers' College

The organization of state teachers' colleges should be simple yet effective. There should be definitely delegated authority to each officer in order that the organization may function constantly and intelligently. There should be a minimum of form and a maximum of flexibility. Upon these premises the adoption of the simple clear cut type of organization described hereafter is recommended:

This organization is built upon the basis of the following definitions of functions:

Administration

Administration or general control shall be defined as that group of activities that deals with (1) the carrying out of policies that provide physical, financial and educational conditions under which teacher and student may work to best advantage; (2) putting into operation standards of achievement; (3) the preparation of general data and reports; (4) research activities; and (5) general publicity.

General Supervision

General supervision of instruction shall be defined as that group of activities which has to do with the actual improvement of instruction through direct contact with the instructor including activities as (1) preparation and development of the curriculum; (2) development of instructional policies and methods; (3) examination of text books; (4) faculty meetings for improvement of instruction; (5) personal conferences for the interpretation of methods and curriculum; (6) classroom visitation and inspection; (7) setting up standards of achievement.

Instruction

Instruction shall be defined as time spent in the direct teaching of students whether in groups or as individuals.

Administration

1. President

The President as head of the teachers' college should be free from all routine administrative duties so that he may devote the major part of his time to the development of administrative and instructional policies.

2. The Registrar

The routine duties of administration should fall upon the Registrar. He is the secretary and business manager of the institution. He should be responsible to the president for:

1. The organization of the school program, distribution of classes, etc., after the program has been outlined by the supervisory council.
2. The keeping of enrollments, attendance, lefts, credits, placement records, general statistics and all other records of the school.
3. The administrative operation and maintenance of the school plant including dormitories and commons with complete control of the engineering and janitorial forces.

4. All matters pertaining to finance, including the preparing and tabulating of the annual budget, subject to the approval of the president. The supervision of all student financial operations.
5. The development of alumni organizations and records.
6. In event of the absence or inability to act of the President or Director of Instruction, he shall automatically assume the title and duties of Acting President.

3. Director of Instruction

The Director of Instruction acts as chairman of the supervisory council and is responsible for the general instructional program. His program is brought before the administrative council and discussed and modified or adopted in relation to the general policy of the college. During the absence of the President he shall automatically assume the title and duties of Acting President. This position is desirable after a school reaches a 1,500 or greater registration.

4. The Director of Practice Teaching and the Training School

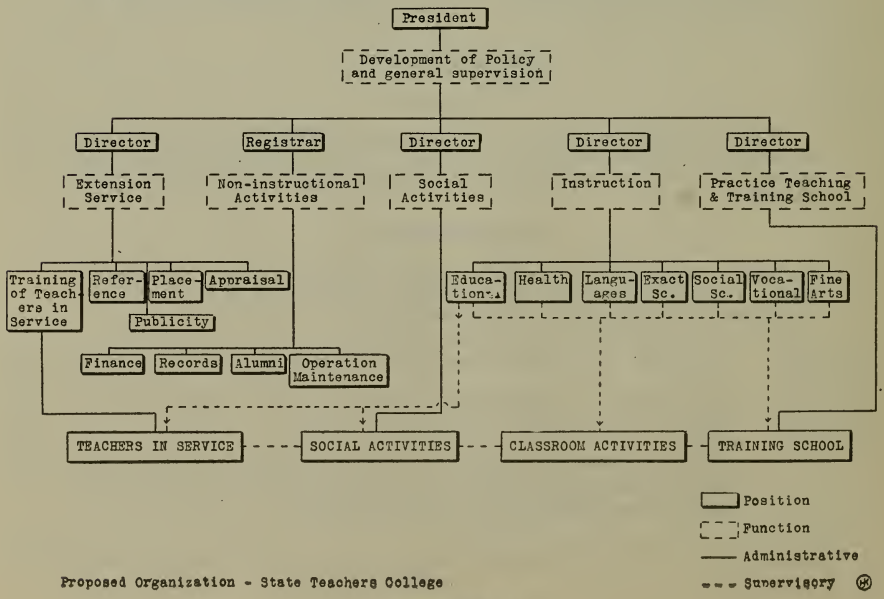
This official would be in general charge of the administration and supervision of practice teaching with such administrative assistants in charge of the elementary and high training schools as may be necessary.

5. Director of Extension Service

The Director of Extension Service would have administrative control of (1) the appraisal of the quality of the product of the college in terms of their success or failure in service, (2) activities relating to the training of teachers in service, (3) editor of the college publications and responsible for general publicity, (4) placement and follow up work, and (5) reference.

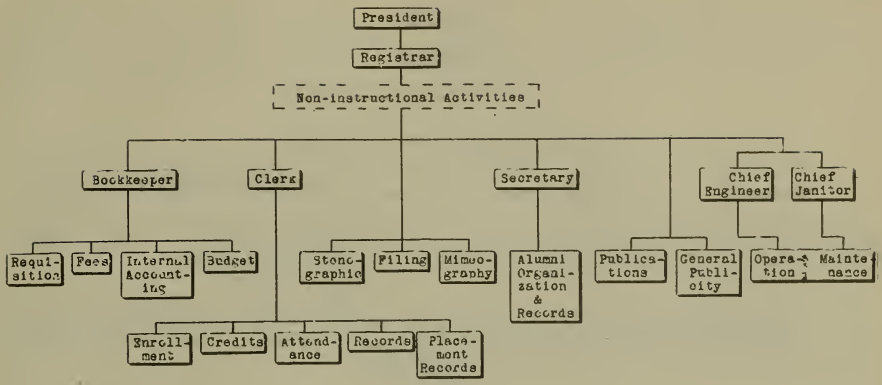
6. Director of Student Activities

The Director of Student Activities should be responsible for the general direction and oversight of all student activities. This officer will be the coordinating head of all student organizations and committees, and in charge of the social administration of dormitories. Since the major portion of the registration is feminine, it is desirable that this officer be a woman.



Proposed Organization - State Teachers College

DIAGRAM 44



Proposed Organization - Non-instructional Activities Detailed

DIAGRAM 45

The Administrative Council

The Registrar, the Director of Practice Teaching and the Training School, the Director of Instruction, the Director of Student Activities and the Director of Extension Service, under the chairmanship of the President, will form a general administrative council to discuss general administrative policy and to be responsible for putting such policies into practice in their individual departments.

Instruction Departments

This organization carries with it the amalgamation of all departments into seven large departments of instructional activities each in charge of a department head. Each sub-department of these larger units may be in charge of a full professor, who in turn will have under his control all associate and assistant professors and instructors in that particular sub-department. Students desiring advice and guidance in any particular activity or department would be referred to the head in each case.

These departments are:

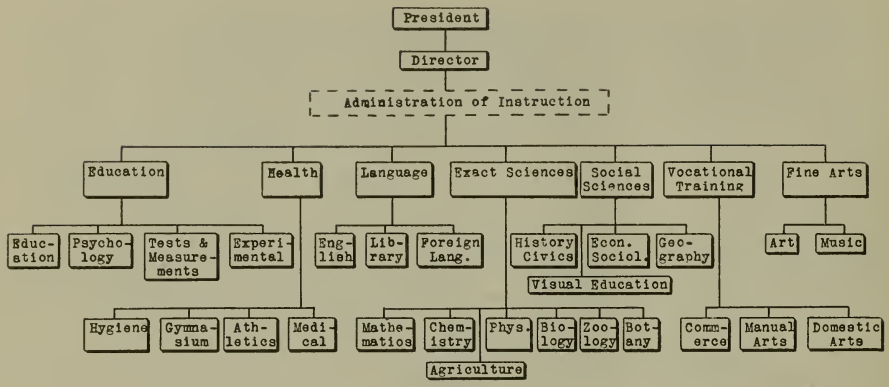
1. Education Department

Under this head would be grouped all courses generally classified as professional, including theory and practice, history and philosophy of education, psychology, etc.

2. Health Department

Under this department head would be grouped all activities such as (1) gymnasium, (2) intramural sports, (3) general athletics, (4) hygiene, (5) health service.

In addition to the regular activities this head would have supervisory control under the Director of Student Activities, of athletics, and all sanitation and health, including medical inspection and attention.



Proposed Organization - Administration of Instruction Detailed ®

DIAGRAM 46

3. Languages Department

This department would include the sub-department of English and foreign languages. English would include activities such as public speaking, speech correction, English, literature, and penmanship. Foreign languages would include (a) ancient and (b) modern.

The head of this department would have general supervisory control, under the Director of Student Activities, of all student publications, dramatics and debating.

4. Exact Sciences Department

This department would include the sub-departments of mathematics and exact sciences. Under the latter would be (a) chemistry, (b) physics, (c) biology, (d) zoology, (e) botany, (f) agriculture.

5. Social Sciences Department

This department would include the sub-departments of (1) history and civics, (2) economics and sociology, (3) geography and (4) visual education.

6. Vocational Department

In this group would be centered all sub-departments which are more or less distinctly vocational in character, viz: (a) the manual arts, (b) the domestic arts, and (c) the commercial studies.

In this department would be supervisory control of the commons or lunchrooms under the Registrar.

7. Fine Arts Department

This would include (a) music and (b) art.

This department would have supervisory control, under the Director of Student Activities, of student musical activities.

Instruction Council

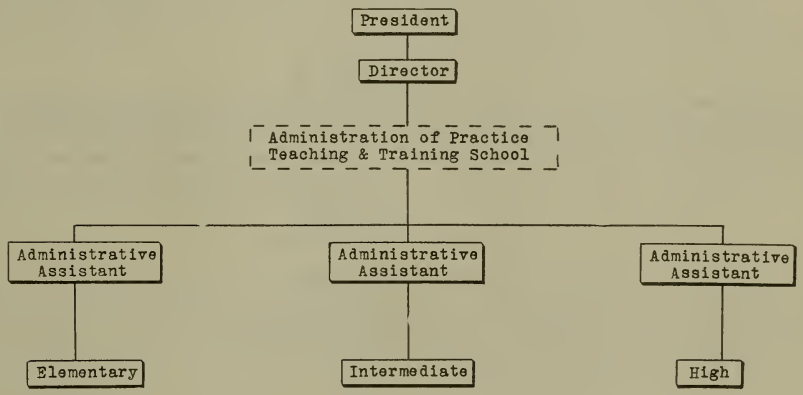
The heads of these seven departments of instruction, education, health, languages, exact sciences, social sciences, vocational and fine arts, would form, under the chairmanship of the Director of Instruction, an instruction council with control of instructional activities and policies. Through weekly conferences it would be possible to develop a unified and well balanced instructional policy which would be carried out in the classrooms and in the training school, for these

department heads would also act as supervisors of the training school, under the direction of the Director of Practice Teaching. The classroom work of these heads should be limited to one or two classes and the remainder of their time spent in the exercise of supervisory functions.

Faculty Participation

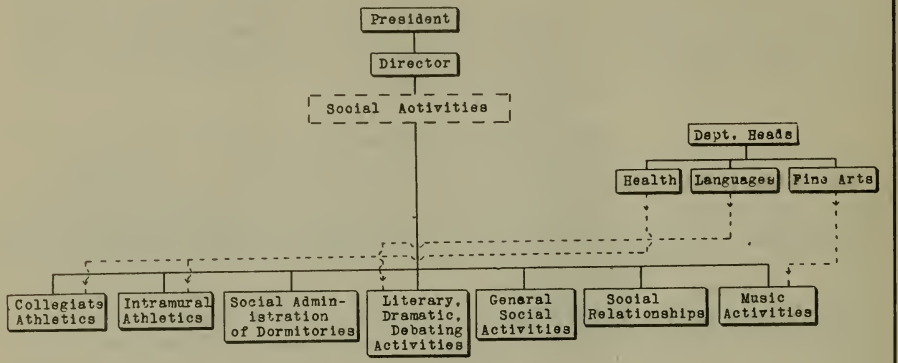
The entire faculty would participate in the development of the instructional policy. All members of sub-departments would meet for discussion under the chairmanship of the professor in charge. Their recommendations would be considered in weekly meetings of the professors in charge of the sub-departments with the department head. The results of these meetings would be carried to the supervisory council and if approved would be placed in operation, after consideration by the administrative council, by the Director of Instruction. The right of appeal to the instruction council upon any decision would be the privilege of any member.

Student contacts and advisory relationships with faculty members would be worked out in the same manner as at present. This recommended organization is shown graphically in the accompanying diagrams.



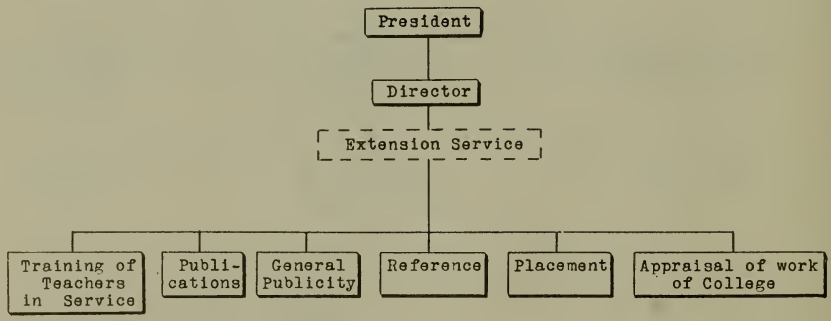
Proposed Organization - Practice Teaching and Training School

DIAGRAM 47



Proposed Organization - Social Activities Detailed (HK)

DIAGRAM 48



Proposed Organization - Extension Service Detailed (HK)

DIAGRAM 49

Chapter XXV—Qualifications for Members of a Teachers College Faculty

The great need is for teacher training schools throughout the country to develop the quality of their work to such a point that it will stand unquestionably as of university quality. One of the basic essentials in the carrying out of this program is the most careful selection of normal school faculties so there may be no question of the quality of the instructional staff. A short definition of the suggested qualifications for each position is presented in this chapter. These follow:

1. President

The President should be selected upon the basis of administrative and educational qualifications. It is sometimes difficult to find combined the highest administrative qualities together with extensive contributions in education. The administrative qualities should be emphasized, but he must have had experiences and have made contributions which guarantee that the interests of instruction will not be overlooked. His educational outlook must be broad. His academic qualifications should be equivalent to the requirements of the earned degree of Doctor of Philosophy.

2. Registrar

The Registrar must be essentially a business executive. He should possess academic and educational training equivalent to that required for the earned degree of Master of Arts. It is preferred that he has had experience in education and an understanding of its general problems.

3. Director of Instruction

The Director of Instruction should be a man carefully trained in the scientific study of education, with the equivalent in training of the earned degree of Doctor of Philosophy. He must have had practical and experimental experience in all phases of instruction. He should possess in addition, administrative ability of a high degree, but his administrative interests should be subordinate to his instructional interests.

4. Director of Extension Service

The Director of Extension Service should be primarily an administrator and organizer. He should possess educational qualifications equivalent to those of the earned degree of Doctor of Philosophy.

5. Director of Practice Teaching and the Training School

The Director of Practice Teaching and the Training School should be a person carefully trained in the scientific study of education, with the equivalent in training of the earned degree of Doctor of Philosophy. He must have had practical and experimental experience in all phases of instruction, particularly in the administration of elementary and other types of schools. He should possess, in addition, administrative ability of a high degree.

6. Director of Student Activities

The Director of Student Activities should be selected primarily for leadership and administrative ability in organizing, directing and developing the social life of the school.

The incumbent should possess academic training equivalent to that required for the earned degree of Master of Arts.

7. Head of Department

The head of a department of instruction should be carefully and widely trained in the scientific study of education, with the equivalent of the earned degree of Doctor of Philosophy in the field of specialization indicated by the department. He must possess the ability to organize, develop and supervise instruction.

8. Professor

A full professor should possess the equivalent of the earned degree of Doctor of Philosophy in his particular field of specialization.

9. Associate Professor

An associate professor should possess the equivalent of the earned degree of Master of Arts in his particular field of specialization.

10. Assistant Professor

An assistant professor should possess the equivalent of the earned degree of Master of Arts in his particular field of specialization.

11. Senior Instructor

This position is devised to care for junior instructors who have been at the maximum for junior instructors for a period of five years, and who will in all probability not be promoted to higher professional rank. The qualifications are the same as for junior instructors.

12. Junior Instructor

The requirements for this position should be the completion of a four year course including at least 30 hours of education, leading to the earned degree of Bachelor of Science or Bachelor of Arts at a recognized college or university, together with at least one year of practical teaching experience. A junior instructor possessing a Doctor of Philosophy degree may be started at $400 above the minimum on this schedule; one with a Master of Arts degree, $200 above the minimum.

13. Training Teachers

All training teachers, whether in the elementary, intermediate, or high school, should be graduates of a four year course, including at least 30 hours of work in education, leading to the degree of Bachelor of Science or Bachelor of Arts at a recognized college or university. They should have, in addition, at least one year's successful teaching experience in schools other than training schools.

Chapter XXVI—Salary Schedule for a Teachers College

The analysis of present salaries in Part I revealed the fact that the increases during the war period were at no time in accord with the increases in living costs. This is even apart from recognition of proper returns for the value of the teaching. The proper adjustment of teacher salaries is a very vital factor in any educational policy and must be given grave consideration if the quality of education is expected to improve.

A suggested schedule has been set up which seems to express better than any at present the value of these professional services. This suggested schedule must be considered in connection with Chapter XXIV which sets forth the qualifications of the several positions. It is not recommended that the suggested schedule be applied save in cases where it is possible for the candidate to properly qualify.

The result of its adoption would be a challenge to the younger and well-trained men and women of superior ability to enter the field of teacher training. It would enable the State Board of Education to select the best talent in the country for this important work. This suggested schedule follows:

	Minimum	Maximum
1. President	$10,000	
2. Registrar	4,000	$8,000
3. Director of Instruction	4,000	8,000
4. Director of Practice Teaching and Training School	4,000	8,000
5. Director of Extension	4,000	8,000
6. Director of Student Activities	4,000	8,000
7. Head of Department	4,000	7,000
8. Professor	4,000	6,000
9. Associate Professor	4,000	5,000
10. Assistant Professor	3,000	4,000
11. Senior Instructor	3,200	3,200
12. Junior Instructor	1,800	2,800
13. Training Teachers	1,700	2,800

All increases, except in the case of training teachers and junior instructors are to be given as a reward of merit. Such increases are not to exceed $500.00 in any one year. Training teachers are to be advanced $240.00 annually until the maximum is reached and junior instructors, $360.00 annually until the maximum has been reached.

Chapter XXVII—The Budget

The purpose of budgeting is to (1) secure adequate appropriations through careful study and analysis to prevent possible waste and unnecessary expenditures, and (2) the proper administration, i.e., the spending and supervision of this spending to secure the greatest returns. The preparation of the actual budget is only half of the task. Exact and constant scrutiny of expenditures is its essential complement. A properly prepared budget should go to the appropriating bodies carrying only essential items. The decision to include or exclude desirable items should rest with the budget makers and not with those whose business is to appropriate.

Appropriating bodies are so accustomed to padded budgets that it generally requires a period of several years before they really have faith in a properly prepared budget of essential needs. This transition period may be a little difficult for the institution, but in the long run a sound budgeting policy will result in the necessary increases in revenue as the need arises.

The financial program of the state normal schools should be presented to the State Board of Education and by this board presented to the state legislature as the state teacher training program. The individual school should not be required to sell its own program after presentation to the state board.

If the State Board of Education is to carry the financial program to the legislature it is necessary that all individual reports be set up on a uniform basis so that they may be readily and effectively interpreted.

To this end a brief outline of a budget procedure is produced here to be used as a general form and guide in its main outlines. It is set up on a purely hypothetical basis using the probable salary distribution that would obtain if the schedule discussed earlier in this report were made effective. This procedure follows:

1923-24 AND 1924-25 BUDGET REQUESTS FOR A STATE TEACHERS COLLEGE

1. Service Rendered

During the past two years this institution has been engaged in the training of teachers for rural schools, kindergarten, primary, grammar grades and high schools. The enrollment has been:

Students by Years

Year	First year	Second year	Third year	Fourth year	Total
1921–22.....	800	650	30	20	1,500
1922–23.....	900	750	30	20	1,700

Certificates and degrees have been as follows:

	Rural Cert.	Limited Cert.	Life Cert.	B. A. Degree	Total
1921–22.....	....	....	600	20	620
1922–23.....	....	....	700	20	720

2. How the College Dollar Has Been Spent

During the last two years 69.9 cents of every dollar have been spent for actual classroom instruction.

Administration has cost 13.2 cents.

Ten cents have been devoted to the operation of the heating plant and to janitorial service.

Maintenance of buildings has cost 2.9 cents and auxiliary agencies 4 cents.

These data are shown in the following table:

		Amount	Per cent
A.	Administrative	$ 48,200	13.2
B.	Instruction	255,900	69.9
C.	Auxiliary agencies	14,500	4.0
D.	Operation of buildings	36,600	10.0
E.	Maintenance of buildings	10,800	2.9
	Total maintenance	$366,000	100.0

3. Development and Growth of College

a—Regular Session

The growth of the college since the war period has been large. Since 1917-18 the registration has increased from 1,100 to 1,700, or 54.5%.

A careful study of the factors involved, the demand for teachers and the present salary conditions make it apparent that the college will not continue to grow at the present rate but during the next two years the registration will probably increase at an even rate of about 10%.

It is therefore necessary to provide for 1,810 regular students in 1922-23 and 1,914 in 1923-24.

Year	Registration	Increase over 1917–18	Per cent increase over 1917–18
1917–18	1,100	...	....
1918–19	1,200	100	9.0
1919–20	1,300	200	18.1
1920–21	1,500	400	33.3
1921–22	1,700	600	54.5
1922–23[1]	1,810	710	64.5
1923–24[1]	1,914	814	74.0

[1]—Estimated.

b—Summer Session

The summer session growth has been even greater than that of the regular session. Since 1917 this registration has grown from 1,100 to 1,800, an increase of 80%.

Two of the reasons for this growth are (1) the increased interest in continuing professional training shown by teachers in the field, and (2) the new law requiring a minimum of one year of professional training by 1925.

This growth is just beginning and is certain to continue for a number of years. The enrollment for the next two summers is estimated at 1,960 and 2,140. This growth is shown in the following table.

Year	Registration	Increase over 1917	Per cent increase over 1917
1917	1,000	...	...
1918	1,100	100	10
1919	1,350	350	35
1920	1,420	420	42
1921	1,650	650	65
1922	1,800	800	80
1923[1]	1,960	960	96
1924[1]	2,140	1,140	114

4. Present Needs

Under this head may be presented present inadequacies in the following order

a—Organization
b—Personnel
c—Equipment
d—Buildings
e—Grounds

5. Requests for Succeeding Two Years

The request for 1923-24 and the succeeding year is $45,400 or 12.4% more than the 1922-23 appropriation. This increase is due (1) to the application of the new salary schedule to the administrative staff and the faculty, and (2) to necessary supply increases to care for growth. There is no increase in operation of buildings and only $400 in auxiliary agencies.

The current student hour cost is 37.2 cents and the estimated 1923–24 student hour cost is 39.1 cents, and 1924-25 cost will probably be 36.8 cents.[2]

No additions to the faculty are requested. This additional growth will be cared for by the present staff by increasing the size of classes. The comparison of the current appropriation and request follows:

[1]—Estimated.

[2]—Note: In this specimen budget procedure, the student hour cost has been reckoned upon the total budget. In actual practice this cost should exclude extension and summer school service, which cost should be figured separately in student hours upon the basis of actual service rendered.

	Appropriation 1922–23	Request[1] 1923–24	Increase	Per cent increase
A. Administration	$ 48,200	$67,100	$18,900	39.0
B. Instruction	255,900	279,900	24,000	9.3
C. Auxiliary Agencies	14,500	14,900	400	2.7
D. Operation of Bldgs.	36,600	36,600	.....	....
E. Maintenance of Bldgs.	10,800	13,300	2,500	23.1
Total Maintenace	$366,000	$411,800	$45,800	12.5
F. Capital Outlay	$177,500	$202,000	$25,500	....
Grand Total	$543,500	$613,800	$71,300	....
Credits	5,700	7,200	1,500	....
Net amount to be raised by taxation	$537,800	$606,600	$69,800	12.9

The comparison by budget division follows:

	Current appropriation	Requested appropriation	Increase
A. Administration	13.2	16.2	3.
B. Instruction	69.9	68.1	-1.8
C. AuxiliaryAgencies	4.0	3.6	-0.4
D. Operation of buildings	10.0	8.9	-1.1
E. Maintenance of buildings	2.9	3.2	0.3
Total	100.0	100.0	

6. Detailed Requests

A. Administration

Administration shows an increase of $18,500 or 39% over the current appropriation. This is due to the increasing of the administrative officers' salaries to conform to the new schedule. This is the highest possible amount that will be spent for administration in the future. There is an increase of $200 in supplies. The other appropriations remain the same.

The detailed analysis of this division follows:

[1]—Note: If the request for the second year should differ greatly from the first it would be desirable to make a second comparison between the two appropriations requested and explain the reasons for the increase.

	Allowed 1921-22	Allowed 1922-23	Requested 1923-24	Requested 1924-25
Administration.				
A. Salaries				
1 President	$6,000	$6,000	$10,000	$10,000
1 Registrar	5,000	5,000	8,000	8,000
1 Director of Extension	5,000	5,000	8,000	8,000
1 Director of Instruction	5,000	5,000	8,000	8,000
1 Director of Practice Teaching	5,000	5,000	8,000	8,000
3 Administrative Assistants	6,000	6,000	7,200	7,200
1 Chief Clerk	2,400	2,400	2,400	2,400
1 Stenographer	1,800	1,800	1,800	1,800
1 Bookkeeper	1,800	1,800	1,800	1,800
3 Clerks	3,600	3,600	3,600	3,600
Total Salaries	$41,600	$41,600	$58,800	$58,800
B. Supplies				
a. Office	$1,000	$1,000	$1,200	$1,400
b. Stationery, postage and telegrams	1,600	1,600	1,700	1,700
c. Incidental office expense	2,000	2,000	2,400	2,400
Total supplies	$4,600	$4,600	$5,300	$5,500
C. Transportation	$1,000	$1,000	$1,000	$1,000
D. Publicity	1,000	2,000	2,000	2,000
Total administration	$48,200	$49,200	$67,100	$67,300

B. Instruction

The request for instruction is $24,000 or 9.3% greater than for the current year. This is due to salary increases for faculty members. As shown earlier in this report the actual student hour cost will decrease by 1923-24, owing to the fact that no additional faculty members are requested. Adjustment in class size will care for growth.

An increase of $2,000 is requested to care for the increasing demand for extension work. The training of teachers in the field is one of the most important services the college can render.

	Allowed		Requested	
	1921-22	1922-23	1923-24	1924-25
B. Instruction				
1. Regular Session				
A. Salaries				
7 Department Heads	$28,000	$28,000	$49,000	$49,000
5 Professors	30,000	30,000	30,000	30,000
10 Professors	50,000	50,000	50,000	50,000
5 Professors	20,000	20,000	20,000	20,000
1 Associate Professor	5,000	5,000	5,000	5,000
4 Associate Professors	16,000	16,000	16,000	16,000
5 Instructors	14,000	14,000	14,000	14,000
5 Instructors	10,000	10,000	10,000	10,000
5 Instructors	9,000	9,000	9,000	9,000

6 Training Instructors	15,600	15,600	15,600	15,600
18 Training Instructors	36,000	36,000	36,000	36,000
6 Training Instructors	9,000	9,000	9,000	9,000
Total Salaries	$242,600	$242,600	$263,600	$263,600
B. Supplies	$9,800	$9,800	$10,800	$10,800
2. Extension				
A. Salaries	$3,000	$3,000	$5,000	$5,000
B. Supplies	500	500	500	500
Total Instruction	$255,900	$255,900	$279,900	$279,900

C. Auxiliary Agencies

An increase of $400 is requested for supplies and incidental expenses in the health service to care for the student increase. The detail:

	Allowed		Requested	
	1921-22	1922-23	1923-24	1924-25
C. Auxiliary Agencies				
1. Health Service				
a. Salaries	$2,000	$2,000	$2,000	$2,000
b. Supplies	500	500	900	900
2. Dormitories and Commons				
a. Salaries (matrons)	12,000	12,000	12,000	12,000
Total Auxiliary Agencies	$14,500	$14,500	$14,900	$ 14,900

D. Operation of Buildings

There is no change in the request for operation of the college plant. The detail:

	Allowed		Requested	
	1921-22	1922-23	1923-24	1924-25
D. Operation of Buildings				
1. Salaries	$18,000	$18,000	$18,000	$18,000
2. Supplies	930	930	930	930
3. Fuel	13,200	13,200	13,200	13,200
4. Light	1,980	1,980	1,980	1,980
5. Gas	260	260	260	260
6. Telephone	380	380	380	380
7. Water	530	530	530	530
8. Insurance	1,320	1,320	1,320	1,320
9. Taxes	.....	.....	.....	.....
Total Operation	$36,600	$36,600	$36,600	$36,600

E. Maintenance of College Plant

An increase of $2,000 is requested for repairs to buildings. It is necessary to decorate the science classrooms and laboratories and repair this equipment.

An increase of $500 is requested for replacement of educational equipment. The detail:

	Allowed		Requested	
	1921-22	1922-23	1923-24	1924-25
E. Maintenance				
1. Repairs to buildings	$8,000	$8,000	$10,000	$10,000
2. Replacement of janitors' equipment	300	300	300	300
3. Replacement of educational equipment	2,500	2,500	3,000	3,000
Total Maintenance	$10,800	$10,800	$13,300	$13,300
Grand Total Maintenance	$366,000	$367,000	$411,800	$412,100

F. Capital Outlay

New equipment for the various classrooms will cost $2,000. (Detailed schedule should be submitted.)

A new library is requested to replace the present unit used for the purpose. Present quarters provide for only 200. The minimum requirements at present are for 400 capacity and, because of the nature of the building, provision should be made for growth. A 600 unit library is therefore requested.

A second dormitory to house 100 women is requested. The detail:

	Allowed		Requested	
	1921-22	1922-23	1923-24	1924-25
F. Capital Outlay				
1. New Equipment	$3,000	$2,500	$2,000	$2,000
2. New Buildings				
a. Library	.....	.....	100,000	100,000
b. Training School	175,000	175,000	.....	.....
c. Dormitory	.....	.....	.....	.....
3. Additions	.....	.....	100,000	100,000
4. Alterations	.....	.....	.....	.....
Grand Total Capital Outlay	$178,000	$177,500	$202,000	$202,000
Credits				
a. From tuition fees	$4,500	$4,500	$5,700	$5,700
b. From extension fees	1,200	1,200	1,500	1,500
Total credits	$5,700	$5,700	$7,200	$7,200

Chapter XXVIII—Classification of College Accounts

The following is recommended as a standard classification of college accounts for budgeting and accounting purposes.

I. Maintenance

A. Administration

1. **Salaries** (President, Registrar, Directors of administrative departments, clerks and stenographers)
2. **Supplies**
   a. Office
   b. Stationery and postage
   c. Telegrams
   d. Incidental office expense
3. **Transportation**
4. Advertising

Total administration

B. Instruction

a. Regular

1. Salaries of faculty with exceptions noted under administration.
2. Educational supplies

b. Summer

1. Salaries of faculty with exceptions noted under administration
2. Educational supplies

c. Extension

1. Salaries of faculty with exceptions noted under administration.
2. Educational supplies

Total instruction

C. Auxiliary Agencies

1. Health Service
   a. Salaries of doctors or nurse
   b. Supplies
   c. Other expense
2. Dormitories and commons

Total auxiliary agencies

D. Operation of Buildings

1. Salaries of janitors, engineers, superintendents of buildings and grounds
2. Supplies
3. Fuel
4. Light
5. Gas
6. Telephone
7. Water

Total operation

E. **Maintenance of College Plant**

Any repairs or replacement to buildings and equipment

Total maintenance

Grand Total Maintenance

II. Capital Outlay

1. New equipment
2. New buildings
3. Additions
4. Alterations and repairs
5. Additions to grounds

Total capital outlay

Grand Total Maintenance and Capital Outlay

Credits

1. From fees
2. From extension
3. From other sources

Supply: Generally speaking any article that is used up during the course of a year, such as chemicals, paper, test tubes, forms, etc., is a supply.

Equipment: Generally speaking any article that has permanence and will not disappear as a result of use during the course of a year, such as typewriters, inkwells, library books, erasers, furniture, etc., is an article of equipment.

Chapter XXIX—Finance

The state normal schools are financed for both maintenance and building purposes by direct tax levy. The budgets are prepared at the colleges and submitted to the State Board of Education. In the past they have been considered separately by the legislature and each president has generally appeared in support of his own budget.

Certain small amounts have been collected as fees from resident and non-resident students.[1] These fees have been applied in the manner prescribed by law and turned over to the state treasurer.

It has been a general practice in extension to pay the salaries of the instructors directly through the collection of fees for these courses.

There has been much discussion lately of raising college fees to the real cost and financing them in this manner to reduce the tax burden. Whatever may be the general merits of such a scheme it should not be applied to teacher training schools. The continued shortage of professionally trained, capable men and women requires the most strenuous teacher recruiting campaign rather than the raising of additional bars. In the last analysis the state must pay for the training of its teachers.

No general change in the method of financing is recommended at this time. It is considered desirable that the laws be so modified that all fees collected by the colleges, except for athletics and other non-academic student activities, be applied as a credit against the budget and all expenses be definitely provided for in the budget. This procedure would result in a smaller net amount to be raised by taxation and would be a true statement of the actual situation.

1—See Appendix, Tables LXXXIV to LXXXVII.

Chapter XXX—Student Accounting and Records

A college record system should be simple and flexible but must be comprehensive enough to yield the information necessary for the successful administration of the college plant. These necessary facts call for a definite system of student accounting, attendance records, room charts, teacher programs, student hour records and class size. The official in charge of the administration of the college can do his work simply and effectively through the means of these mechanical aids.

Uniformity of method among the several state colleges is desirable, but this need not necessarily be carried over into insistence upon uniform size, color or type of record card. These are matters that may be left safely to the individual college. It is desirable, however, that the rules under which all student accounting is done shall be uniform. To that end a terminology is presented in this chapter as a basis for uniform accounting. This terminology follows:

Terminology for Uniform Student Accounting

1. **Matriculation** shall designate the first entry of a student into the college.
2. **Registration** shall designate the entry of a student into the college during any term upon payment of the regular fees.
3. **Enrollment** shall designate the entry of a student into specific class groups.
4. **Losses** (lefts) shall include permanent withdrawals from the institution during any term.
5. **Membership** shall be registration minus losses (lefts).
6. **Total original registration** shall include every student who has been registered at any time during the college year.
7. **Classification** shall be the standing of a student based upon the number of earned credits as follows:

1 to 9 units – 1
10 to 24 " – 2
25 to 36 " – 3
37 to 48 " – 4

Average Membership

Average membership shall be the aggregate of the daily membership for the term or quarter divided by the actual number of days college was in session.

Average Daily Attendance

Average daily attendance shall be the aggregate of the daily attendance for the term or quarter divided by the actual number of days college was in session.

Percent of Attendance

This then shall be secured by dividing average attendance by average membership.

Student Hours

A student hour (instruction hour) may be defined as a student instructed for sixty minutes. It may be secured in the following manner: daily attendance times length of instruction period in clock hours.

College and Student Costs

College and student costs shall be determined in terms of student hours.

Marking System

It is also highly desirable that the marking systems at all state colleges be uniform. At the present time two colleges are operating on a six point and another upon a seven point system. It is difficult for one not connected with an institution to translate marks received.

There is now in operation at the University of Michigan, the Detroit Teachers College and the Detroit Junior College, a five-point system that is easily understood and widely accepted. This system could be applied profitably to the state normal schools. It follows:

A—Excellent	E—Failure
B—Good	I—Incomplete
C—Fair	X—Absent from examination
D—Condition	Dr—Dropped

Chapter XXXI—Publicity

There is great need for a unified publicity program which would present at regular intervals the teacher training program to the teachers, high school students and people of the state. A publicity program, to be successful, must be diversified, so the following general plan is suggested:

1. The general publicity program should be placed in charge of the Director of Extension.
2. The publishing, jointly, by the four schools of a state teachers' bulletin for circulation among teachers, educational administrative officers, state and local officials, citizens and high schools, is desirable.
3. Field work by the Directors of Extension.
4. Publication in the press of the state of items of policy and general interest in addition to athletic news.
5. The establishing of live contacts by the presidents between the teacher training schools and such organized civic agencies as Rotary and Kiwanis clubs, church orders, etc.
6. The maintenance of contacts through extension work with teachers in service.
7. The success of this program depends upon continuity, clear and forceful presentation of facts, and the ability to instil confidence in the people.

Chapter XXXII—Classification

The classification of teacher training institutions as normal schools has long been a debatable question. The National Education Association Committee[1] on Teachers' Colleges reported upon this subject at the Chicago meeting, February 27, 1922. The objectives and conclusions of this report are reproduced here because of their particular application to the Michigan situation.

1—This committee is composed of the following: President Charles McKenny, of the Michigan State Normal College, Ypsilanti, Chairman; Dr. William C. Bagley, of Teachers' College, Columbia University; President David Felmley, of Normal University, Normal, Illinois; President W. A. Jessup, of the State University of Iowa, Iowa City; President John R. Kirk, of the Missouri State Teachers' College, Kirksville; and President Robert H. Wright, of Teachers' Training School, Greenville, North Carolina.

"The two main objectives of the study were:

"1. To discover the scope of the teachers' college movement, i. e., to what extent normal schools are advancing in rank to teachers' colleges.

"2. To gather data which would reveal the practices and standards obtaining in teachers' colleges and their relations to practices and standards generally accepted in college and university circles. The committee reached the following conclusions:

"1. In the opinion of this committee the teachers' college movement is sound in policy. The normal schools began as secondary schools with a professional purpose. As public education progressed they advanced to the rank of junior colleges and with the further progress of public education it is perfectly natural that they should develop into professional colleges. This development is in complete harmony with the general advancement of organized education. Moreover, it is a necessity if we are to have a body of trained teachers with a professional attitude toward their work. Especially is it important that we should have teachers' colleges in view of the disposition of teachers in service to continue their education. Thousands of such teachers find the work offered by the teachers' colleges during the summer session their greatest single opportunity for academic and professional advancement.

"2. The teachers' college movement is still in the experimental stage. While a few institutions have established themselves firmly in the college field and have received general recognition for their work, probably three-fourths of the so-called teachers' colleges are just advancing to senior college rank. It will take a number of years for them to establish their courses, increase their attendance, and standardize their work on a college basis.

"3. The movement should receive encouragement from all friends of public education. Legislatures which have been responsible for the legal enactments which have created these teachers' colleges should back them up financially and make it possible for them to develop a physical plant and the faculties necessary for the work which they have been authorized to undertake.

"4. The universities should evince a co-operative spirit toward the teachers' college movement. In the great work of education there is room and glory for all. The universities will find their resources taxed to the limit to care for those who desire to enter their doors. Any spirit of rivalry or over-zealous competition between the educational institutions of a state should cease. The universities and the teachers' colleges should be colleagues and firm friends in advancing the interests of education within their respective states.

"5. The normal schools which advance to the rank of teachers' colleges should take the name college. It is idle to ask what is in a name, for there is much in a name. In public thinking the term 'school' is applied to an institution below college rank. The name 'college' has an appeal which the name 'normal school' does not have, and as soon as a normal school is authorized to take up senior college work it should take the name indicative of its rank.

"6. The teachers' colleges should address themselves to the task of standardization. If they are to be colleges in name they should be colleges in fact. This means that for the entrance requirements, student's load, content of courses, academic preparation of faculty, faculty load, number of weeks' teaching a year, et cetera, they should 'square' with college standards. Teachers' colleges may never hope to have the respect and recognition of the colleges and universities and the public in general until this task of standardization is achieved.

"7. And as aid to this standardization, the committee suggests that a more detailed study be made of the organization and administration of teachers' colleges and of the content of the course of study, such report to be made by the present committees or by some other committee authorized for that particular purpose."

PART IV—APPENDIX

Detailed Statistical Information

TABLE IA—REGISTRATION BY YEARS IN THIRTY-THREE NORMAL SCHOOLS

States	School	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
NEW ENGLAND													
Maine	East. State Normal, Castine	102	109	123	82	81	63	108	123	71	28	46	56
Massachusetts	Bridgewater State Normal,	152	155	177	160	198	201	209	221	178	162	194	424
Connecticut	State Normal Training, New Haven	153	155	130	127	151	161	112	75	81	107	105	330
Rhode Island	R. I. College of Education	103	143	168	119	124	120	135	75	66	113	111	32
	Total	510	562	598	488	554	545	564	494	396	410	456	842
MIDDLE ATLANTIC													
New York	Buffalo State Normal	377	418	437	488	546	607	569	434	299	319	483	779
New York	Oswego State Normal & Training	308	303	338	355	344	325	310	301	250	182	216	263
New Jersey	State Normal, Trenton	268	306	266	311	305	333	355	312	166	255	330	19
Pennsylvania	Mansfield State Normal	441	547	561	471	375	461	374	531	417	561	469	476
	Total	1,394	1,574	1,602	1,625	1,570	1,726	1,608	1,578	1,132	1,317	1,498	1,537
EAST NORTH CENTRAL													
Illinois	State Normal University	710	745	700	709	721	722	832	886	649	427	588	748
Michigan	Western State Normal	624	660	652	728	721	881	1,004	1,045	911	1,121	975	1,200
	Central Michigan Normal	414	448	390	371	432	423	372	235	327	311	491	634
	Northern State Normal	719	775	776	841	755	916	1,037	1,172	1,078	833	894	621
	State Normal College, Ypsilanti	1,422	1,501	1,590	1,577	1,643	1,684	1,696	1,816	1,387	946	1,198	1,323
	Total	3,889	4,129	4,108	4,226	4,272	4,626	4,941	5,154	4,352	3,368	4,146	4,526
SOUTH ATLANTIC													
Virginia	State Normal for Women	695	692	654	637	619	618	618	622	546	648	662	230
West Virginia	Fairmont State Normal	375	390	410	360	370	340	400	420	290	260	250	260
Washington, D. C.	James Ormond Wilson Normal	109	90	75	75	88	91	95	36	37	50	59	16
Georgia	State Normal, Athens	652	650	664	559	548	490	717	609	663	694	671	628
No. Carolina	No. Carolina College for Women	615	598	586	615	633	582	702	746	786	793	790	982
So. Carolina	Colored Nor. Ind. Agric. & Mech.	95	88	148	156	313	330	307	283	145	155	214	869
	Total	2,541	2,508	2,537	2,402	2,571	2,451	2,839	2,716	2,467	2,600	2,646	2,985

EAST SOUTH CENTRAL													
Kentucky	West. Kentucky State Normal	1,400	1,323	1,552	1,660	1,707	1,642	1,821	1,790	1,241	1,418	1,559	1,834
Tennessee	Middle Tenn. State Normal	.....	.....	347	318	474	544	594	625	501	529	425	400
	Total	1,400	1,323	1,899	1,978	2,181	2,186	2,415	2,415	1,742	1,947	1,984	2,234
WEST NORTH CENTRAL													
Kansas	State Normal	377	682	758	1,170	1,411	801	1,059	1,019	736	573	655	587
Minnesota	Winona State Normal	.....	317	392	474	465	468	434	468	415	311	433	442
North Dakota	State Normal	1,493	1,552	1,729	1,778	1,625	1,713	1,647	1,224	1,295	1,461	1,054	1,453
Nebraska	Wayne State Normal	.....	539	662	737	701	790	925	937	821	839	1,062	1,195
	Total	1,870	3,090	3,541	4,159	4,202	3,772	4,065	3,648	3,267	3,184	3,204	3,677
WEST SOUTH CENTRAL													
Louisiana	New Orleans Normal	270	357	404	289	202	180	228	126	115	103	113	26
Oklahoma	East Central State	364	512	750	875	1,068	1,249	2,186	1,328	1,227	1,457	1,333	533
Texas	North Texas State	1,426	1,502	1,547	1,891	1,711	2,442	3,048	2,887	2,783	3,102	1,254	1,255
	Total	2,060	2,371	2,701	3,055	2,981	3,871	5,462	4,341	4,125	4,662	2,700	1,814
MOUNTAIN													
Colorado	State Normal	.....	.....	113	157	230	332	396	460	391	338	490	625
Montana	Dillon Normal College	136	119	152	175	217	220	250	173	129	163	180	190*
	Total	136	119	265	332	447	552	646	633	520	501	670	815
PACIFIC													
Oregon	Oregon Normal	.....	.....	138	199	263	327	460	540	378	237	311	271
California	Los Angeles State	782	921	1,088	1,220	1,405	1,808	1,782	1,680	1,297	976	1,153	1,212
Washington	State Normal	465	448	396	478	588	706	965	1,081	882	634	650	1,892
	Total	1,247	1,369	1,622	1,897	2,256	2,841	3,207	3,301	2,557	1,847	2,114	3,375
	GRAND TOTAL	15,047	17,045	18,873	20,162	21,034	22,570	25,747	26,694	20,558	20,106	20,917	21,805
	Increase over 1910		1,998	3,826	5,115	5,987	7,523	10,700	11,647	5,511	5,059	5,870	6,758
	% Increase over 1910		13.3	25.4	34.0	39.8	50.0	71.1	77.4	36.6	33.6	39.0	44.9

*311 in regional schools

TABLE IB—GRADUATES BY YEARS IN THIRTY-THREE NORMAL SCHOOLS

States	School	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
NEW ENGLAND													
Maine	East. State Normal, Castine	49	65	49	58	52	35	68	91	36	15	22	28
Massachusetts	Bridgewater State Normal	94	123	127	128	145	156	198	166	167	172	177	147
Conneticut	State Normal Training, New Haven	116	138	143	94	117	130	132	138	100	70	72	103
Rhode Island	R. I. College of Education	102	101	98	96	130	155	121	110	103	116	67	62
	Total	361	427	417	376	444	476	519	505	406	373	338	340
MIDDLE ATLANTIC													
New York	Buffalo State Normal	109	117	211	193	216	235	264	273	253	217	134	237
New York	Oswego State Normal & Training	100	133	133	158	153	137	135	129	150	88	96	120
New Jersey	State Normal, Trenton	179	177	200	251	187	227	216	248	244	224	143	210
Pennsylvania	Mansfield State Normal	95	100	155	187	77	109	135	196	194	149	198	180
	Total	483	527	699	789	633	708	740	846	841	678	571	747
EAST NORTH CENTRAL													
Illinois	State Normal University	82	106	119	131	130	120	163	185	180	135	132	156
Michigan	Western State Normal	209	230	196	219	223	269	279	351	248	256	241	300
	Central Michigan Normal	131	168	176	223	207	193	240	216	178	154	196	193
	Northern State Normal	90	91	83	105	121	118	161	172	150	82	90	114
	State Normal College, Ypsilanti	620	667	733	774	775	844	847	917	861	667	565	600
	Total	1,132	1,262	1,307	1,452	1,456	1,544	1,690	1,841	1,617	1,294	1,224	1,363
WEST NORTH CENTRAL													
Kansas	State Normal	134	154	190	252	271	346	398	316	290	191	212	26
Minnesota	Winona State Normal	162	115	123	135	166	163	124	140	136	105	113	123
North Dakota	State Normal	149	160	155	185	216	218	193	165	155	142	163	91
Nebraska	Wayne State Normal	.....	3	23	33	43	51	62	74	75	46	79	52
	Total	445	432	491	605	696	778	777	695	656	484	567	292

SOUTH ATLANTIC													
Virginia	State Normal for Women	105	124	108	140	123	137	147	168	127	124	175	70
West Virginia	Fairmont State Normal	55	79	70	31	39	61	102	112	116	47	63	65
Washington, D. C.	James Ormond Wilson Normal	97	86	87	65	65	54	66	57	42	28	36	44
Georgia	State Normal, Athens	57	76	59	77	110	70	89	106	162	146	152	126
N. Carolina	No. Carolina College for Women	35	38	55	50	70	53	53	84	78	83	82	95
S. Carolina	Colored Nor. Ind. Agric. & Mech	24	.....	23	32	69	61	54	77	34	61	37	46
	Total	373	403	402	395	476	436	511	604	559	489	545	446
EAST SOUTH CENTRAL													
Kentucky	West. Kentucky State Normal	45	32	26	26	49	72	81	79	68	66	21	80
Tennessee	Middle Tenn. State Normal	.....	.....	9	42	43	49	59	64	50	35	47	40
	Total	45	32	35	68	92	121	140	143	118	101	68	120
WEST SOUTH CENTRAL													
Louisiana	New Orleans Normal	57	78	106	122	145	82	82	96	47	42	33	15
Oklahoma	East Central State Normal	6	4	7	16	30	51	61	49	42	45	66	70
Texas	North Texas State Normal	142	174	288	625	55	142	219	203	192	220	10	10
	Total	205	256	401	763	230	275	362	348	281	307	109	95
MOUNTAIN													
Colorado	State Normal	.....	.....	8	22	32	64	50	47	60	61	35	45
Montana	Dillon State Normal College	29	27	33	42	35	43	50	62	50	51	60	60
	Total	29	27	41	64	67	107	100	109	110	112	95	105
PACIFIC													
Oregon	Oregon Normal	.....	.....	26	70	105	120	169	212	162	89	105	114
California	Los Angeles State Normal	304	398	426	511	547	718	762	769	77	386	385	376
Washington	Washington State Normal	224	264	239	285	414	486	710	837	740	531	522	387
	Total	528	662	691	866	1,066	1,324	1,641	1,818	1,672	1,006	1,012	877
	GRAND TOTAL	3,601	4,028	4,484	5,378	5,160	5,769	6,490	6,909	6,260	4,844	4,529	4,385
	Increase over 1910		427	883	1,777	1,559	2,168	2,889	3,308	2,659	1,243	928	784
	% Increase over 1910		11.8	24.5	49.4	43.3	60.2	80.2	91.9	73.8	34.5	25.8	21.8

TABLE II—MICHIGAN STATE NORMAL COLLEGE, YPSILANTI—REGISTRATION AND PLACEMENT

No.	County	Regular Year Registration							Summer Registration							Placement					
		1916–1917	1917–1918	1918–1919	1919–1920	1920–1921	1921–1922	Total	1916	1917	1918	1919	1920	1921	Total	1917	1918	1919	1920	1921	Total
1	Alcona	2	2	1	1	1	1	8	.....	2	4	3	2	2	13	.....	.....	.....	.....	.....	.....
2	Alger*	2	2	.....	2	1	3	10	.....	.....	.....	1	.....	1	2	2	1	.....	.....	1	4
3	Allegan	12	8	9	4	5	7	45	1	4	5	7	1	5	23	2	1	.....	1	1	5
4	Alpena	2	2	1	1	1	4	11	11	5	.....	5	17	19	57	1	.....	2	.....	.....	3
5	Antrim	22	14	7	12	8	9	72	16	11	8	4	9	19	67	.....	4	7	2	4	17
6	Arenac	10	4	1	2	2	2	21	5	4	3	7	5	11	35	.....	.....	3	.....	3	6
7	Baraga*	1	2	1	3	1	1	9	.....	.....	2	.....	2	1	5	.....	.....	.....	.....	.....	.....
8	Barry	8	6	1	9	5	7	36	19	11	6	11	8	7	62	1	1	4	4	.....	10
9	Bay	25	22	15	13	11	22	108	53	34	26	20	27	37	197	4	1	5	5	.....	15
10	Benzie	9	6	3	6	7	11	42	3	1	6	5	8	4	27	3	.....	3	1	.....	7
11	Berrien	28	21	19	20	13	12	113	10	6	10	4	3	7	40	4	1	10	9	3	27
12	Branch	12	11	6	4	7	13	53	7	16	5	15	11	15	69	2	5	2	.....	2	11
13	Calhoun	22	20	17	5	6	13	83	16	19	12	14	9	12	82	27	19	9	16	12	83
14	Cass	7	5	4	3	5	3	27	2	4	.....	1	7	1	15	7	.....	.....	.....	2	9
15	Charlevoix	14	8	5	7	9	10	53	11	10	5	9	9	10	54	2	5	5	.....	.....	12
16	Cheboygan	8	9	4	1	3	11	36	16	3	7	15	6	9	56	.....	3	2	1	2	8
17	Chippewa*	21	6	11	10	4	8	60	24	7	6	3	4	7	51	3	.....	.....	.....	.....	3
18	Clare	4	2	1	.....	.....	2	9	1	2	1	.....	.....	1	5	.....	2	.....	1	.....	3
19	Clinton	25	16	16	22	15	11	105	19	14	15	16	17	20	101	8	2	2	2	4	18
20	Crawford	3	.....	.....	1	1	2	7	2	4	1	1	1	3	12	.....	.....	2	7	.....	9
21	Delta*	6	7	4	1	4	7	29	2	1	.....	1	5	1	10	1	1	5	2	.....	9
22	Dickinson*	11	9	3	10	7	3	43	1	2	3	1	1	5	13	5	12	1	1	1	20
23	Eaton	34	34	25	20	26	30	169	14	20	18	10	18	33	113	9	10	7	5	4	35
24	Emmet	19	16	12	12	11	9	79	6	3	4	7	5	4	29	3	3	2	1	.....	9
25	Genessee	26	16	21	25	30	48	166	66	54	40	49	58	85	352	24	24	21	16	22	107
26	Gladwin	1	.....	.....	.....	.....	.....	1	2	4	6	.....	1	2	15	.....	.....	3	1	1	5
27	Gogebic*	19	8	3	6	6	9	51	3	2	1	.....	3	1	10	6	2	1	1	3	13
28	Gratiot	9	6	3	17	16	12	63	7	4	12	5	11	8	47	7	2	5	4	.....	18
29	Gd. Traverse	10	4	9	17	13	7	60	4	7	7	5	14	20	57	4	.....	1	3	2	10
30	Hillsdale	28	21	16	16	30	33	134	55	48	37	30	37	45	252	7	2	.....	1	.....	10
31	Houghton*	60	36	39	39	25	21	239	18	13	13	16	11	13	84	7	5	2	10	.....	24

32	Huron	26	24	12	11	11	24	108	14	19	23	27	30	41	154	12	10	3	3	17	45
33	Ingham	51	31	37	38	34	47	238	36	31	29	34	58	68	256	23	10	15	11	8	67
34	Ionia	24	18	10	19	12	26	109	15	18	12	23	17	23	108	5	10	1	1	4	21
35	Iosco	13	7	1	5	7	11	44	18	10	15	10	11	29	93	2	.....	.....	2	3	7
36	Iron*	5	5	4	6	5	2	27	.....	.....	1	.....	4	2	7	11	.....	.....	.....	2	13
37	Isabella	2	1	.....	3	6	2	14	1	.....	.....	3	2	1	7	4	1	2	.....	1	8
38	Jackson	37	18	18	21	29	55	178	57	47	60	58	43	63	328	14	7	3	8	3	35
39	Kalamazoo	7	3	3	.....	1	2	16	5	2	1	3	1	1	13	6	1	2	4	7	20
40	Kalkaska	2	1	1	1	.....	1	6	.....	2	.....	6	7	4	19	.....	.....	.....	1	.....	1
41	Kent	65	49	30	33	32	45	254	34	25	8	23	26	26	142	7	9	.....	10	9	35
42	Kewcenaw*	1	1	2	1	1	.....	6	.....	.....	2	.....	2	.....	4	1	.....	.....	2	.....	3
43	Lake	.....	.....	1	.....	1	.....	2	.....	4	.....	.....	.....	1	5	.....	.....	.....	.....	.....	.....
44	Lapeer	28	22	10	11	16	24	111	37	34	36	36	35	50	228	10	8	2	5	3	28
45	Leelanau	4	2	1	1	3	6	17	5	1	2	5	2	2	17	1	.....	.....	.....	.....	1
46	Lenawee	57	28	34	44	53	58	274	95	70	71	58	91	162	547	13	11	11	6	6	47
47	Livingston	22	21	11	21	26	35	136	52	47	49	45	36	55	284	10	11	1	2	7	31
48	Luce*	3	3	.....	1	2	.....	9	2	2	.....	1	2	2	9	2	6	.....	.....	.....	8
49	Mackinaw*	4	3	1	1	3	8	20	3	1	.....	2	1	1	8	.....	.....	.....	.....	.....	.....
50	Macomb	31	21	13	14	17	28	124	48	33	21	35	36	40	213	12	5	10	13	12	52
51	Manistee	8	10	5	6	12	14	55	14	12	19	15	24	20	104	1	2	1	.....	.....	4
52	Marquette*	5	5	2	3	.....	4	19	3	5	4	.....	7	1	20	1	1	.....	.....	.....	2
53	Mason	14	5	7	11	5	12	54	11	7	3	9	9	6	45	3	.....	1	.....	1	5
54	Mecosta	11	14	2	8	4	5	44	7	4	4	1	4	3	23	.....	1	3	1	.....	5
55	Menominee*	2	3	.....	.....	2	2	9	2	1	3	2	.....	1	9	.....	1	.....	.....	.....	1
56	Midland	4	4	2	1	1	1	13	5	2	2	3	1	1	14	.....	.....	.....	1	2	3
57	Missaukee	10	5	5	3	2	3	28	5	3	5	3	1	3	20	2	4	.....	.....	.....	6
58	Monroe	25	21	26	25	27	16	140	46	48	33	43	51	62	283	6	9	3	1	5	24
59	Montcalm	15	10	7	9	17	19	77	8	11	11	9	7	10	56	7	4	8	1	5	25
60	Montmorency	.....	.....	.....	1	.....	.....	1	2	2	.....	3	1	4	12	.....	.....	.....	1	.....	1
61	Muskegon	16	18	12	5	17	29	97	19	16	21	20	15	19	110	10	10	6	9	10	45
62	Newaygo	6	5	3	9	5	6	34	10	8	4	2	4	1	29	5	2	3	.....	3	13
63	Oakland	55	38	21	35	45	62	256	68	74	71	58	76	111	458	28	22	15	21	25	111
64	Oceana	14	13	3	7	6	2	45	10	8	5	2	6	3	34	4	3	1	.....	.....	8
65	Ogemaw	9	1	2	1	4	6	23	4	3	2	7	2	9	27	.....	2	.....	1	.....	3
66	Ontonagon*	9	6	2	.....	.....	4	21	5	4	5	4	2	1	21	6	2	.....	.....	.....	8
67	Osceola	12	5	7	2	5	4	35	9	8	3	7	7	6	40	3	1	1	2	1	8
68	Oscoda	.....	1	1	.....	1	.....	3	2	1	2	1	1	2	9	.....	.....	.....	.....	.....	.....
69	Otsego	2	4	1	2	1	2	12	3	9	10	11	9	12	54	.....	1	.....	.....	1	2

TABLE II—MICHIGAN STATE NORMAL COLLEGE, YPSILANTI—REGISTRATION AND PLACEMENT—(CONT.)

No.	County	Regular Year Registration							Summer Registration							Placement					
		1916–1917	1917–1918	1918–1919	1919–1920	1920–1921	1921–1922	Total	1916	1917	1918	1919	1920	1921	Total	1917	1918	1919	1920	1921	Total
70	Ottawa	11	6	8	8	4	4	41	12	9	14	4	12	7	58	1	.....	1	.....	3	5
71	Presque Isle	4	2	2	2	2	3	15	11	5	7	7	4	15	49	3	4	2	2	1	12
72	Roscommon	.....	1	4	.....	.....	.....	5	.....	.....	1	3	3	.....	7	.....	.....	.....	.....	.....	.....
73	Saginaw	33	29	21	24	23	34	164	64	54	42	40	43	54	297	10	11	4	4	5	34
74	Sanilac	21	20	13	9	17	30	110	27	29	37	37	47	46	223	17	7	11	.....	4	31
75	Schoolcraft*	10	7	3	2	.....	3	25	2	1	1	.....	2	2	8	.....	2	.....	.....	.....	9
76	Shiawassee	22	23	17	22	28	39	151	47	36	41	38	42	72	276	4	12	3	4	8	32
77	St. Clair	38	32	27	37	40	57	231	63	56	63	44	65	77	368	7	7	12	6	9	41
78	St. Joseph	13	4	3	2	.....	3	25	4	5	4	5	2	4	24	6	.....	2	.....	2	10
79	Tuscola	31	22	9	12	9	25	108	37	24	36	27	45	62	231	10	4	4	.....	5	23
80	Van Buren	10	9	2	6	3	5	35	1	2	3	4	3	5	18	1	10	2	2	1	16
81	Washtenaw	278	203	193	158	191	228	1,251	214	195	169	155	179	238	1,150	5	9	6	6	11	37
82	Wayne	159	123	90	60	70	113	615	130	114	97	72	66	79	558	83	73	61	49	65	331
83	Wexford	6	8	3	4	2	8	31	16	4	3	5	5	10	43	1	1	2	1	1	6
		1,696	1,258	949	992	1,065	1,448	7,408	1,677	1,421	1,318	1,275	1,459	1,925	9,075	496	400	306	274	317	1,793

*Counties in Upper Peninsula

TABLE III—WESTERN STATE NORMAL SCHOOL, KALAMAZOO—REGISTRATION AND PLACEMENT

No.	County	Regular Year Registration							Summer Registration							Placement					
		1916–1917	1917–1918	1918–1919	1919–1920	1920–1921	1921–1922	Total	1916	1917	1918	1919	1920	1921	Total	1917	1918	1919	1920	1921	Total
1	Alcona	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	.....
2	Alger*	.....	.....	.....	.....	.....	2	2	.....	.....	1	.....	.....	3	4	.....	2	1	1	.....	4
3	Allegan	63	54	66	55	58	63	359	68	46	45	63	61	85	368	6	17	12	8	8	51
4	Alpena	1	.....	.....	.....	1	1	3	2	1	2	.....	2	2	9	.....	1	.....	3	.....	4
5	Antrim	1	1	8	7	1	1	19	1	.....	7	8	3	3	22	1	3	3	.....	2	9
6	Arenac	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
7	Baraga*	.....	1	1	1	2	.....	5	.....	.....	.....	.....	.....	2	2	.....	.....	.....	.....	.....	.....
8	Barry	20	19	23	18	25	38	143	27	23	35	24	25	40	174	1	4	2	4	2	13
9	Bay	5	1	3	3	4	2	18	6	1	2	.....	.....	2	11	.....	.....	1	.....	.....	1
10	Benzie	3	6	6	1	1	2	19	6	1	4	1	1	1	14	3	1	.....	.....	.....	4
11	Berrien	54	33	90	49	60	91	377	68	58	65	72	65	99	428	15	19	28	11	11	84
12	Branch	18	10	14	10	13	10	75	33	26	34	41	28	60	222	1	1	3	2	1	8
13	Calhoun	48	47	55	45	49	66	310	74	43	48	40	49	64	318	16	26	18	17	22	99
14	Cass	21	22	23	22	28	42	158	46	34	31	35	40	49	235	3	4	4	6	6	23
15	Charlevoix	3	3	2	.....	2	9	19	.....	3	2	1	2	5	13	.....	5	1	2	4	12
16	Cheboygan	3	.....	.....	.....	1	1	5	2	3	2	.....	1	.....	8	2	2	.....	.....	.....	4
17	Chippewa*	1	.....	.....	1	1	4	7	.....	.....	1	1	.....	.....	2	1	.....	.....	.....	.....	1
18	Clare	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
19	Clinton	2	2	3	2	1	5	15	2	1	1	1	1	5	11	6	3	6	3	.....	18
20	Crawford	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	2	4
21	Delta*	1	1	5	3	.....	.....	10	.....	1	.....	.....	.....	.....	1	.....	.....	3	.....	.....	3
22	Dickinson*	15	.....	22	15	16	9	77	1	.....	.....	3	1	4	9	2	1	2	2	.....	7
23	Eaton	4	8	11	17	15	28	83	.....	28	25	22	50	42	167	11	10	6	5	5	37
24	Emmet	1	6	11	6	8	15	47	.....	.....	2	4	1	6	13	5	2	1	2	2	12
25	Genesee	7	7	3	3	7	4	31	12	6	12	9	9	18	66	8	9	7	1	4	29
26	Gladwin	.....	1	1	1	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
27	Gogebic*	4	1	1	.....	1	3	10	.....	2	1	.....	.....	.....	3	6	2	.....	.....	.....	8
28	Gratiot	3	1	1	1	2	1	9	4	4	1	1	1	5	16	3	1	....	.. 2	1	7
29	Grand Traverse	8	11	10	10	5	1	45	7	.....	5	5	5	4	26	1	1	1	.....	3	6
30	Hillsdale	9	6	4	6	10	10	45	35	34	37	37	34	47	224	.....	1	.....	.....	.....	1

TABLE III—WESTERN STATE NORMAL SCHOOL, KALAMAZOO—REGISTRATION AND PLACEMENT—(CONT.)

No.	County	Regular Year Registration							Summer Registration							Placement					
		1916-1917	1917-1918	1918-1919	1919-1920	1920-1921	1921-1922	Total	1916	1917	1918	1919	1920	1921	Total	1917	1918	1919	1920	1921	Total
31	Houghton*	4	12	10	3	19	20	68	18	.....	10	1	3	3	35	.....	.....	.....	.....	.....	.....
32	Huron	3	3	.....	3	.....	1	10	.....	1	2	1	1	.....	5	3	2	.....	.....	1	6
33	Ingham	8	5	10	7	14	10	54	2	3	3	1	2	8	19	9	10	7	5	4	35
34	Ionia	7	5	8	14	23	27	84	13	9	17	10	21	18	88	8	4	4	3	1	20
35	Iosco	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	1	.....	1	2	1	5
36	Iron*	.....	.....	2	1	3	4	10	.....	.....	2	3	.....	.....	5	1	2	1	.....	1	5
37	Isabella	.....	.....	1	1	.....	.....	2	1	.....	1	1	1	2	6	.....	1	1	.....	.....	2
38	Jackson	6	6	3	4	3	5	27	6	3	5	5	5	5	29	2	3	6	3	3	17
39	Kalamazoo	234	189	210	198	256	320	1,407	178	159	165	129	156	261	1,048	22	20	19	29	23	113
40	Kalkaska	.....	1	1	2	3	3	10	.....	1	.....	1	4	.....	6	.....	.....	.....	.....	.....	.....
41	Kent	87	73	80	56	57	85	438	149	112	118	128	109	198	814	20	22	33	18	19	112
42	Keweenaw*	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	1	.....	1	.....	.....	1	.....	.....	1
43	Lake	1	.....	1	.....	.....	.....	2	2	1	.....	1	2	.....	6	.....	.....	.....	.....	.....	.....
44	Lapeer	4	2	4	.....	.....	1	11	2	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....
45	Leelanau	2	2	3	1	.....	2	10	1	1	1	4	7	8	22	8	5	5	5	3	26
46	Lenawee	1	.....	1	3	5	10	20	2	.....	2	1	1	6	12	.....	.....	.....	.....	.....	.....
47	Livingston	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	2	2	1	2	3	2	10
48	Luce*	3	1	1	1	2	2	10	.....	1	.....	.....	.....	.....	1	2	.....	1	1	.....	4
49	Mackinaw*	1	.....	.....	.....	3	2	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
50	Macomb	1	.....	.....	.....	1	1	3	.....	1	1	1	1	3	7	6	3	3	9	7	28
51	Manistee	3	1	3	5	1	3	16	1	1	.....	5	1	2	10	1	1	.....	.....	.....	2
52	Marquette*	3	1	1	4	7	4	20	.....	.....	.....	.....	.....	2	2	2	5	1	2	1	11
53	Mason	5	1	1	4	9	10	30	14	11	2	7	6	11	51	.....	.....	.....	3	2	5
54	Mecosta	1	6	6	4	7	6	30	18	9	8	3	4	5	47	2	4	1	6	5	18
55	Menominee*	1	4	1	1	.....	.....	7	.....	.....	1	.....	2	.....	3	.....	1	.....	2	1	4
56	Midland	.....	.....	.....	1	1	2	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	3	5
57	Missaukee	.....	1	.....	.....	.....	.....	1	1	.....	.....	1	2	3	7	2	1	2	1	4	10
58	Monroe	.....	.....	.....	.....	1	1	2	1	.....	.....	.....	.....	1	2	.....	.....	.....	.....	3	3
59	Montcalm	2	4	2	3	7	10	28	1	7	4	9	10	15	46	3	4	1	4	5	17
60	Montmorency	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	.....

61	Muskegon	7	4	18	13	22	38	102	44	32	33	39	42	57	247	.....	.....	.....	.....	.....	.....
62	Newaygo	8	8	16	1	15	21	69	10	12	17	11	8	28	86	4	3	2	4	4	17
63	Oakland	1	2	.....	3	2	1	9	1	5	4	4	1	7	22	2	4	3	3	3	15
64	Oceana	19	14	18	19	25	15	110	38	21	22	18	24	39	162	2	3	4	2	.....	11
65	Ogemaw	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
66	Ontonagon*	2	.....	.....	1	1	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	2	1	1	1	5
67	Osceola	3	1	1	1	3	3	12	3	.....	2	1	3	2	11	2	2	2	1	.....	7
68	Oscoda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
69	Otsego	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	2	3	.....	.....	.....	.....	.....	.....
70	Ottawa	40	28	40	29	35	50	222	74	55	70	67	55	86	407	10	7	7	5	10	39
71	Presque Isle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
72	Roscommon	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
73	Saginaw	1	.....	.....	1	.....	4	6	1	.....	.....	.....	2	1	4	2	1	1	.....	3	7
74	Sanilac	1	3	.....	.....	1	3	8	.....	.....	2	5	2	2	11	.....	1	1	1	.....	3
75	Schoolcraft*	.....	.....	3	....	1	5	9	.....	.....	1	1	1	2	5	1	2	2	2	.....	7
76	Shiawassee	5	4	4	6	1	.....	20	2	3	2	3	2	3	15	2	2	3	.....	.....	7
77	St. Clair	3	1	1	2	5	7	19	2	1	4	7	5	2	21	3	4	.....	1	6	14
78	St. Joseph	30	37	44	44	53	63	271	69	49	55	51	54	85	363	8	5	7	3	8	31
79	Tuscola	1	.....	.....	.....	.....	.....	1	2	2	1	1	.....	1	7	.....	.....	.....	.....	2	2
80	Van Buren	84	63	83	54	85	108	477	98	62	67	83	82	125	517	13	8	8	13	16	58
81	Washtenaw	.....	1	3	2	2	1	9	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	1	3
82	Wayne	1	2	6	7	7	4	27	.....	1	2	1	1	3	8	4	15	30	30	29	108
83	Wexford	4	3	6	2	3	4	22	1	.....	4	2	5	2	14	2	1	1	.....	2	6
		882	729	956	777	995	1,266	5,605	1,152	878	991	974	1,007	1,546	6,548	242	266	261	232	247	1,248

*Counties in the Upper Peninsula

TABLE IV—CENTRAL MICHIGAN NORMAL SCHOOL, MT. PLEASANT —REGISTRATION AND PLACEMENT

No.	County	Regular Year Registration							Summer Registration							Placement					
		1916–1917	1917–1918	1918–1919	1919–1920	1920–1921	1921–1922	Total	1916	1917	1918	1919	1920	1921	Total	1917	1918	1919	1920	1921	Total
1	Alcona	4	.....	3	2	.....	.....	9	3	1	4	6	5	5	24	.....	.....	.....	1	1	2
2	Alger*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	2
3	Allegan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	2	.....	3
4	Alpena	2	3	8	2	3	2	20	3	2	4	2	4	5	20	1	1	2	.....	.....	4
5	Antrim	5	7	6	6	5	9	38	8	9	5	5	20	12	59	6	2	2	3	2	15
6	Arenac	2	.....	2	1	.....	5	10	2	3	4	2	8	8	27	2	.....	.....	1	.....	3
7	Baraga*	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	.....
8	Barry	.....	.....	.....	.....	.....	1	1	3	1	2	.....	.....	.....	6	.....	2	2	2	.....	6
9	Bay	7	6	13	7	8	12	53	22	11	16	19	19	37	124	4	4	2	1	1	12
10	Benzie	12	2	11	4	7	5	41	17	8	10	14	16	26	91	1	.....	.....	.....	2	3
11	Berrien	1	.....	1	1	.....	.....	3	.....	.....	.....	.....	1	.....	1	.....	5	3	4	1	13
12	Branch	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	1	.....	1	.....	.....	2	.....	.....	2
13	Calhoun	1	.....	.....	1	.....	1	3	.....	.....	1	2	.....	.....	3	1	.....	1	7	.....	9
14	Cass	.....	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	1	4	.....	.....	.....	.....	.....	.....
15	Charlevoix	12	7	9	2	8	20	58	19	11	17	8	13	15	83	3	13	7	4	6	33
16	Cheboygan	.....	.....	6	.....	.....	.....	6	6	3	5	1	5	6	26	.....	.....	.....	.....	1	1
17	Chippewa*	.....	.....	.....	.....	1	.....	1	1	.....	.....	.....	.....	1	2	2	.....	.....	5	.....	7
18	Clare	25	18	30	14	12	15	114	28	19	48	43	44	52	234	5	4	2	3	2	16
19	Clinton	10	12	12	9	4	16	63	22	16	17	21	21	34	131	6	3	2	6	2	19
20	Crawford	2	1	.....	.....	.....	1	4	3	2	5	6	1	2	19	1	2	1	.....	.....	4
21	Delta*	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	.....
22	Dickinson*	.....	1	1	.....	.....	.....	2	.....	.....	.....	1	.....	1	2	.....	2	.....	.....	.....	2
23	Eaton	1	1	1	4	2	4	13	5	2	3	1	1	3	15	3	1	1	.....	1	6
24	Emmet	3	2	4	5	8	21	43	7	2	16	8	11	10	54	4	1	2	.....	1	8
25	Genesee	6	4	11	7	3	7	38	13	16	23	15	21	40	128	15	5	13	3	5	41
26	Gladwin	5	.....	4	2	5	1	17	23	19	13	20	18	37	130	2	1	.....	2	2	7
27	Gogebic*	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
28	Gratiot	39	26	34	25	44	60	228	56	34	46	43	48	87	314	18	13	16	17	12	76
29	Gd. Traverse	8	.....	.....	2	2	6	18	14	5	9	9	15	15	67	4	1	.....	.....	1	6
30	Hillsdale	.....	.....	1	3	4	3	11	.....	.....	.....	1	2	4	7	.....	.....	1	2	.....	3

31	Houghton*	1	.....	2	.....	1	1	5	.....	2	.....	.....	.....	.....	2	1	.....	.....	1	.....	2
32	Huron	15	9	7	7	5	15	58	6	15	13	6	14	25	79	7	12	1	5	5	30
33	Ingham	2	.....	3	2	6	5	18	6	3	4	6	5	8	32	5	4	2	3	6	20
34	Ionia	18	11	20	19	13	3	84	26	16	31	26	39	47	185	4	1	1	2	3	11
35	Iosco	.....	2	2	1	2	2	9	.....	3	6	1	4	7	21	.....	1	.....	.....	2	3
36	Iron*	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	2
37	Isabella	133	106	151	167	181	189	927	101	105	120	130	149	217	822	23	11	16	15	14	79
38	Jackson	1	1	.....	.....	.....	1	3	.....	.....	.....	1	1	1	3	.....	3	4	1	.....	8
39	Kalamazoo	2	.....	1	2	3	.....	8	.....	.....	.....	.....	.....	1	1	.....	.....	1	.....	1	2
40	Kalkaska	10	.....	1	2	2	4	19	9	1	2	4	14	3	33	.....	2	.....	1	2	5
41	Kent	7	1	1	3	4	8	24	5	3	3	2	22	39	74	3	.....	.....	5	10	18
42	Keweenaw*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
43	Lake	1	1	.....	.....	1	1	4	1	2	1	1	3	2	10	2	2	.....	.....	2	6
44	Lapeer	.....	.....	1	.....	2	2	5	1	.....	.....	1	7	4	13	2	.....	1	1	7	11
45	Leelanau	6	3	6	3	1	3	22	8	2	8	8	14	15	55	4	.....	.....	.....	1	5
46	Lenawee	1	2	1	1	.....	.....	5	1	1	.....	.....	3	1	6	1	.....	.....	.....	1	2
47	Livingston	.....	.....	.....	2	.....	.....	2	.....	.....	.....	1	1	1	3	1	.....	1	.....	4	6
48	Luce*	1	.....	.....	.....	.....	1	2	1	1	.....	.....	1	.....	3	.....	.....	.....	1	.....	1
49	Mackinaw*	2	.....	.....	.....	.....	.....	2	1	.....	.....	.....	3	1	5	1	1	.....	.....	.....	2
50	Macomb	.....	.....	.....	.....	.....	1	1	.....	.....	.....	2	1	.....	3	1	3	1	3	4	12
51	Manistee	6	4	4	3	9	10	36	23	19	22	23	11	37	135	3	2	.....	3	1	9
52	Marquette*	.....	.....	.....	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
53	Mason	7	5	3	2	13	10	40	6	12	16	6	11	22	73	4	5	1	1	4	15
54	Mecosta	6	8	7	4	7	12	44	2	8	11	15	23	16	75	2	.....	.....	.....	3	5
55	Menominee*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	2
56	Midland	11	15	19	9	10	14	78	16	9	5	19	25	42	116	10	4	5	5	.....	24
57	Missaukee	3	.....	2	5	11	12	33	5	3	.....	9	13	17	47	3	1	1	1	.....	6
58	Monroe	.....	.....	.....	.....	.....	2	2	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	3	5
59	Montcalm	25	14	22	13	12	27	113	46	20	49	59	54	81	309	7	4	2	2	.....	15
60	Montmorency	1	.....	.....	.....	.....	.....	1	2	2	4	5	2	2	17	.....	.....	.....	.....	.....	.....
61	Muskegon	.....	.....	.....	.....	2	3	5	1	1	1	2	3	5	13	.....	1	....	.. 3	2	6
62	Newaygo	1	1	1	.....	1	1	5	4	1	.....	.....	1	6	12	1	.....	.....	1	2	4
63	Oakland	3	.....	.....	1	.....	.....	4	1	2	1	.....	1	.....	5	3	.....	.....	7	5	15
64	Oceana	2	1	5	1	.....	1	10	1	.....	.....	.....	2	3	6	2	1	.....	.....	1	4
65	Ogenaw	5	.....	6	1	2	1	15	5	3	7	3	5	7	30	1	.....	.....	1	.....	2
66	Ontonagon*	2	1	2	1	1	1	8	1	1	.....	.....	.....	1	3	.....	1	2	.....	.....	3
67	Osceola	11	10	17	12	6	17	73	40	38	37	38	53	64	270	2	2	1	2	4	11

TABLE IV—CENTRAL MICHIGAN NORMAL SCHOOL, MT. PLEASANT —REGISTRATION AND PLACEMENT—(CONT.)

No.	County	Regular Year Registration							Summer Registration							Placement					
		1916–1917	1917–1918	1918–1919	1919–1920	1920–1921	1921–1922	Total	1916	1917	1918	1919	1920	1921	Total	1917	1918	1919	1920	1921	Total
68	Oscoda	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
69	Otsego	6	3	.....	2	.....	.....	11	7	7	5	2	1	1	23	4	1	.....	1	1	7
70	Ottawa	3	1	3	.....	.....	1	8	3	2	.....	.....	.....	2	7	7	6	6	3	.....	22
71	Presque Isle	3	2	1	1	.....	1	8	4	.....	.....	1	2	3	10	.....	5	1	4	2	12
72	Roscommon	.....	.....	.....	.....	.....	.....	.....	1	1	.....	1	.....	4	7	.....	1	.....	.....	.....	1
73	Saginaw	23	18	51	24	25	36	177	29	33	59	60	69	86	336	15	16	21	20	13	85
74	Sanilac	2	2	2	.....	3	6	15	5	4	5	12	7	10	43	2	1	1	1	3	8
75	Schoolcraft*	.....	.....	1	1	1	.....	3	.....	.....	1	.....	.....	1	2	.....	1	.....	.....	.....	1
76	Shiawassee	11	3	5	6	9	8	42	13	10	6	19	20	29	97	8	6	4	.....	.....	18
77	St. Clair	.....	.....	3	2	3	2	10	1	2	1	1	.....	2	7	5	4	6	.....	2	17
78	St. Joseph	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	1	3	.....	.....	.....	.....	.....	.....
79	Tuscola	9	7	16	10	15	17	74	14	16	34	22	38	44	168	2	2	2	3	4	13
80	Van Buren	.....	2	3	3	1	.....	9	.....	1	.....	.....	.....	.....	1	.....	2	.....	.....	.....	2
81	Washtenaw	.....	.....	1	.....	.....	1	2	.....	.....	.....	.....	.....	1	1	1	.....	.....	1	1	3
82	Wayne	4	1	9	2	6	.....	22	2	1	5	4	1	4	17	12	15	7	15	12	61
83	Wexford	13	11	13	11	13	22	83	14	15	9	28	16	30	112	8	3	4	4	4	23
		502	336	550	421	487	632	2,928	670	529	715	745	915	1,296	4,870	239	185	151	181	171	927

*Counties in Upper Peninsula.

TABLE V—NORTHERN STATE NORMAL SCHOOL, MARQUETTE—REGISTRATION AND PLACEMENT

No.	County	Regular Year Registration							Summer Registration							Placement					
		1916–1917	1917–1918	1918–1919	1919–1920	1920–1921	1921–1922	Total	1916	1917	1918	1919	1920	1921	Total	1917	1918	1919	1920	1921	Total
1	Alcona																				
2	Alger*	11	9	10	6	9	12	57	18	9	9	10	14	19	79	10	9	6	7	8	40
3	Allegan												2		2						
4	Alpena						1	1			1	1	1	2	5					1	1
5	Antrim																		1		1
6	Arenac																				
7	Baraga*	4	4	7	3	4	8	30	22	15	5	12	19	42	115	6	7	4	3	5	25
8	Barry									1				1	2						
9	Bay													2	2						
10	Benzie									3			1		4						
11	Berrien													1	1						
12	Branch																				
13	Calhoun													1	1						
14	Cass																				
15	Charlevoix	2				1	1	4	4	1		2		2	9						
16	Cheboygan								7	8		2		3	20						
17	Chippewa*	4	3	8	2	4	5	26	24	20	15	19	32	61	171	8	9	7	6	4	34
18	Clare													2	2						
19	Clinton																				
20	Crawford																				
21	Delta*	12	5	18	12	14	16	77	43	38	34	37	53	62	267	9	8	7	3	7	34
22	Dickinson*	30	20	26	11	14	36	137	23	19	22	17	28	48	157	8	7	6	6	3	30
23	Eaton													1	1						
24	Emmet	1	1					2	2	2			2	2	8				2	2	4
25	Genessee	1						1	1		1		1	1	4			3		3	6
26	Gladwin																				
27	Gogebic*	37	35	27	38	38	42	217	29	21	21	35	25	48	179	24	24	21	26	21	116
28	Gratiot										1			2	3						
29	Gd. Traverse																				

TABLE V—NORTHERN STATE NORMAL SCHOOL, MARQUETTE—REGISTRATION AND PLACEMENT—(CONT.)

No.	County	Regular Year Registration							Summer Registration							Placement					
		1916–1917	1917–1918	1918–1919	1919–1920	1920–1921	1921–1922	Total	1916	1917	1918	1919	1920	1921	Total	1917	1918	1919	1920	1921	Total
30	Hillsdale													4	4						
31	Houghton*	114	90	56	50	55	69	434	120	115	121	104	143	185	788	26	26	30	10	12	104
32	Huron											1			1						
33	Ingham					1	1	2						1	1					2	2
34	Ionia											2		1	3						
35	Iosco													1	1						
36	Iron*	42	23	22	15	22	29	153	47	33	30	38	32	53	233	26	19	10	8	16	79
37	Isabella										2			1	3						
38	Jackson													1	1						
39	Kalamazoo								1					1	2						
40	Kalkaska																				
41	Kent						1	1	1	1			2	3	7						
42	Keweenaw*	5	4	2		1	1	13	13	11	9	8	7	15	63						
43	Lake																				
44	Lapeer						1	1													
45	Leelanau																				
46	Lenawee																			1	1
47	Livingston								1						1						
48	Luce*	4	3	3	5	5	7	28	5	4	13	13	9	16	60	7	12	11	5	6	41
49	Mackinaw*	2			1	3	3	9	4	4	6	5	8		27						
50	Macomb																				
51	Manistee			1		1		2						1	1						
52	Marquette.*	183	148	197	160	179	223	1,090	158	136	128	175	184	295	1,076	14	13	12	9	12	60
53	Mason						1	1						1	1						
54	Mecosta			1				1			1	1			2						
55	Menominee*	22	16	6	6	4	10	64	27	28	24	35	41	59	214			5	1		6
56	Midland																				
57	Missaukee																				
58	Monroe																				

59	Montcalm			2				2				1			1					
60	Montmorency																			
61	Muskegon	1		1				2		1	1	1		1	4					
62	Newaygo											1			1					
63	Oakland									1		1		1	3					
64	Oceana																			
65	Ogemaw																			
66	Ontonagon*	9	6	5	3	6	14	43	34	21	27	20	29	45	176	9	7	4	5	9	34
67	Osceola	1						1			1	1	1		3						
68	Oscoda																			
69	Otsego																			
70	Ottawa						1	1						2	2					
71	Presque Isle						1	1				1	1	11	13					
72	Roscommon																			
73	Saginaw		1	1	2		1	5		11	15	6	7	12	51				1	3	4
74	Sanilac																			
75	Schoolcraft*	6	3	1	2	5	4	21	29	20	12	17	14	26	118	3	5		5	3	16
76	Shiawassee													2	2						
77	St. Clair	1	1					2		1	2		4	11	18						
78	St. Joseph																			
79	Tuscola																			
80	Van Buren													1	1					
81	Washtenaw													14	14					
82	Wayne			1	1		1	3						4	4			1	5		6
83	Wexford																			
		492	372	395	318	366	489	2,432	613	524	501	566	660	1,068	3,932	150	156	127	103	118	644

*Counties in Upper Peninsula

TABLE VI—USE OF BUILDINGS BY PERIODS (MICHIGAN STATE)

Building	Total Strd. cap. for 1 wk.	Strd. cap. 1 a.m. hr. thru 6 days	Strd. cap. 1 p.m. hr. thru 5 days	Total weekly use of each period 6 days				Total weekly use of each period 5 days				Total a.m. attendance 1 wk.	Total p.m. attendance 1 wk.	Total attendance a.m. & p.m. for 1 wk.
				8–9	9–10	10–11	11–12	1–2	2–3	3–4	4–5			
Administration	24,552	3,348	2,790	500	579	521	151	222	545	209	.....	1,751	976	2,727
Main.....	58,784	8,016	6,680	1980	3004	2470	1650	2312	2057	1090	351	9,104	6,810	15,914
Science.....	32,912	4,488	3,740	758	474	446	342	746	512	245	12	2,020	1,515	3,535
Pease Aud....	4,268	582	485	364	147	163	186	167	171	103	75	860	516	1,376
Gymnasium....	19,316	2,634	2,195	213	259	344	425	222	198	565	413	1,241	1,398	2,639
Total Normal Plant.....	139,832	19,068	15,890	3815	4463	3944	2754	3669	4483	2212	851	14,976	11,215	26,191

TABLE VII—USE OF BUILDINGS BY PERIODS (WESTERN STATE)

Building	Total Strd. cap. for 1 wk.	Strd. cap. 1 a.m. hr. thru 6 days	Strd. cap. 1 p.m.hr. thru 5 days	Total weekly use of each period 6 days					Total weekly use of each period 5 days				Total a.m. attendance 1 wk.	Total p.m. attendance 1 wk.	Total attendance a.m. & p.m. for 1 wk.
				8–9	9–10	10–11	11–12	12–1	1–2	2–3	3–4	4–5			
Administration	29,612	4,038	3,365	2018	1892	2401	1372	.....	2035	1548	979	493	7,683	5,055	12,738
Science.....	32,296	4,404	3,670	1383	1625	1614	1588	.....	1587	1699	1108	83	6,210	4,477	10,687
Manual Arts...	5,104	696	580	303	223	78	158	.....	137	145	43	.....	762	325	1,087
Gymnasium....	9,856	1,344	1,120	176	457	337	226	.....	258	247	.....	.....	1196	505	1,701
Total Normal Plant.....	76,868	10,482	8,735	3880	4197	4430	3344	.....	4017	3639	2130	576	15,851	10,362	26,213
Combined College & High....	102,938	10,482	8,735	4950	5172	5250	4284	.....	4787	4294	2130	576	19,656	11,787	31,443

TABLE VIII—USE OF BUILDINGS BY PERIODS (CENTRAL NORMAL)

Building	Total Strd. cap. for 1 wk.	Strd. cap. 1 a.m. hr thru 6 days	Strd. cap. 1 p.m. hr. thru 5 days	Total weekly use of each period 6 days				Total weekly use of each period 5 days				Total a.m. attendance 1 wk.	Total p.m. attendance 1 wk.	Total attendance a.m. & p.m. for 1 wk.
				8–9	9–10	10–11	11–12	1–2	2–3	3–4	4–5			
Main.....	33,088	4,512	3,760	1158	1475	1063	1268	1353	1199	1001	531	4,964	4,084	9,048
Science.....	26,796	3,654	3,045	828	570	803	248	762	900	579	50	2,449	2,291	4,740
Gymnasium....	15,224	2,076	1,730	92	358	612	158	39	225	270	344	1,220	878	2,098
Total.....	75,108	10,242	8,535	2078	2403	2478	1674	2154	2324	1850	925	8,633	7,253	15,886

TABLE IX—USE OF BUILDINGS BY PERIODS (NORTHERN STATE)

Building	Total Strd. cap. for 1 wk.	Strd. cap. 1 a.m. hr. thru 6 days	Strd. cap. 1 p.m. hr. thru 5 days	Total weekly use of each period 6 days				Total weekly use of each period 5 days				Total a.m. attendance 1 wk.	Total p.m. attendance 1 wk.	Total attendance a.m. & p.m. for 1 wk.
				8–9	9–10	10–11	11–12	1–2	2–3	3–4	4–5			
Administration	28,512	3,888	3,240	1045	1069	1284	1160	1363	1224	259	94	4,558	2,940	7,498
North (Peter White Science)	13,816	1,884	1,570	665	611	612	543	364	665	275	63	2,431	1,367	3,798
Gymnasium....	8,536	1,164	970	.....	130	16	155	212	154	230	230	445	826	1,271
Total.....	50,864	6,936	5,780	1710	1810	2056	1858	1939	2043	764	387	7,434	5,133	12,567

TABLE X—ACCOMMODATIONS BY BUILDINGS (MICHIGAN STATE)

Building	No. of rooms	Standard capacity	Seating capacity
Administration.....	15	558	411
Classrooms.....	12	514	367
Manual Training & Domestic Science.....	3	44	44
Main.....	28	1,336	1,140
Classrooms.....	26	1,194	1,017
Laboratory.....	1	26	7
Library.....	1	116	
Science.....	21	748	640
Classrooms.....	9	481	407
Laboratories.....	7	178	139
Lecture & Laboratories Laboratories & Class Laboratory & Collection.....	4	85	90
Shop.....	1	4	4
Pease Auditorium.....	5	97	112
Classrooms.....	5	97	112
Gymnasium.....	6	439	486
Recitation rooms.....	2	43	90
Practice floors.....	3	379	379
Physical Exam.....	1	17	17
Standard Capacity.....	75	3,178	2,789
Reasonable Capacity.....		1,500	1,300

TABLE XI—ACCOMMODATIONS BY BUILDINGS (WESTERN STATE)

Building	No. of rooms	Standard capacity	Seating capacity
Administration	20	673	829
Classrooms	17	469	644
Laboratories	2	66	47
Library	1	138	138
Science	24	734	827
Classrooms	10	425	484
Laboratories	13	301	311
Library	1	20	20
Manual Arts	8	116	116
Shops, etc	8	116	116
Gymnasium	1	224	224
Standard Capacity	53	1,747	1,996
Reasonable Capacity		800	900

TABLE XII—ACCOMMODATIONS BY BUILDINGS (CENTRAL NORMAL)

Building	No. of rooms	Standard capacity	Seating capacity
Main	19	752	685
Classrooms	16	635	577
Music	2	27	18
Library	1	90	90
Science	18	609	543
Classrooms	9	411	345
Laboratories	9	198	198
Gymnasium	4	346	361
Recitation	1	49	64
Laboratory	1	17	17
Game room	1	109	109
Main floor	1	171	171
Standard Capacity	41	1,707	1,589
Reasonable Capacity		800	700

TABLE XIII—ACCOMMODATIONS BY BUILDINGS (NORTHERN STATE)

Building	No. of rooms	Standard capacity	Seating capacity
Administration	12	648	546
Classrooms	9	460	388
Classrooms—Music	1	58	44
Drawing	1	33	17
Library	1	97	97
Peter White Science (North)	11	314	315
Classrooms	6	175	176
Drafting room, Lathe & Bench	3	57	57
Laboratory & Classrooms	2	82	82
Gymnasium	1	194	194
Standard Capacity	24	1,156	1,055
Reasonable Capacity		530	520

TABLE XIV—DEGREES CLASSIFIED BY INSTITUTION

	B.L.	B.Pd.	Ph.B.	B.S.	B.A.	M.Pd.	M.S.	M.A.	Ph.D.	M.L.	M.Di.	LL.D.	Ph.M.	M.D.
Columbia University	....	....	....	21	....	....	....	12	1	....	....	....	....	....
University of Michigan	4	....	3	8	32	....	5	21	2	1	....	....	....	1
Harvard University	....	....	....	....	1	....	....	5	1	....	....	....	....	....
University of Wisconsin	....	....	....	....	1	....	....	4	1	....	....	....	....	....
University of Chicago	....	....	4	3	1	....	4	4	2	....	....	....	1	....
Northwestern University	....	....	....	....	....	....	....	1	....	....	....	....	....	....
Amherst College	....	....	....	....	2	....	....	2	....	....	....	....	....	....
University of Iowa	....	....	1	....	....	....	....	....	....	....	....	....	....	....
Cornell	....	....	....	....	....	....	....	1	1	....	....	....	....	....
University of Minnesota	....	....	....	....	1	....	....	1	....	....	....	....	....	....
University of Bonn	....	....	....	....	....	....	....	....	1	....	....	....	....	....
University of California	....	....	....	....	1	....	....	1	....	....	....	....	....	....
University of Munich	....	....	....	....	....	....	....	....	1	....	....	....	....	....
University of Berlin	....	....	....	....	....	....	....	....	1	....	....	....	....	....
Wesleyan University	....	....	....	....	....	....	....	1	1	....	....	....	....	....
University of Jena	....	....	....	....	....	....	....	....	1	....	....	....	....	....
University of Missouri	....	....	....	1	1	....	....	....	....	....	....	....	....	....
Boston University	....	....	....	....	1	....	....	....	....	....	....	....	....	....
University of Indiana	....	....	....	....	2	....	....	1	....	....	....	....	....	....
Iowa State College	....	....	....	1	....	....	....	....	....	....	....	....	....	....
Syracuse University	....	....	....	....	1	....	....	....	....	....	....	....	....	....
Vassar College	....	....	....	....	1	....	....	....	....	....	....	....	....	....
University of Maine	....	....	....	1	....	....	1	....	....	....	....	....	....	....
University of Ohio	....	....	....	....	2	....	....	2	....	....	....	....	....	....
University of Illinois	....	....	....	....	....	....	....	1	1	....	....	....	....	....
University of Pennsylvania	....	....	....	....	....	....	....	1	1	....	....	....	....	....
Wellesley College	....	....	....	....	1	....	....	....	....	....	....	....	....	....
University of Vermont	....	....	1	....	....	....	....	....	....	....	....	....	....	....
University of Texas	....	....	....	....	1	....	....	....	....	....	....	....	....	....
Packer Collegiate Institute	1	....	....	....	....	....	....	....	....	....	....	....	....	....
Albion College	....	....	4	....	4	....	....	3	....	....	....	....	2	....
Hedding College, Ill.	....	....	....	....	1	....	....	....	....	....	....	....	....	....
Hope College	....	....	....	....	1	....	....	....	....	....	....	....	....	....
Denison University	....	....	1	....	....	....	....	....	....	....	....	....	....	....
Allegheny College	....	....	....	....	1	....	....	....	....	....	....	....	....	....
Kalamazoo Normal	....	....	....	1	5	....	....	....	....	....	....	....	....	....
Ohio Northern University	1	....	1	1	1	....	....	....	....	....	....	....	....	....
Miami University	....	....	....	....	1	....	....	....	....	....	....	....	....	....
Michigan State Normal	....	16	....	....	14	12	....	....	....	....	....	....	....	....
Ohio Wesleyan	1	....	....	1	....	....	....	....	....	....	....	....	....	....
Wabash College	....	....	....	....	1	....	....	....	....	....	....	....	....	....
Alma College	....	....	1	....	2	....	....	....	....	....	....	....	....	....
Hillsdale	....	....	....	....	1	....	....	....	....	....	....	....	....	....
Teachers College, Mass.	....	....	....	1	....	....	....	....	....	....	....	....	....	....
Olivet	1	....	....	....	2	....	....	1	....	....	....	1	....	....
Michigan Agricultural College	....	....	....	4	....	....	....	....	....	....	....	....	....	....
Adrian	....	....	1	....	1	....	....	....	....	....	....	....	....	....
Wheaton College	....	....	....	1	1	....	....	....	....	....	....	....	....	....
Radcliffe College	....	....	....	....	....	....	....	1	....	....	....	....	....	....
Grinnell College	....	....	1	....	....	....	....	1	....	....	....	....	....	....
Berea College	....	....	....	....	....	....	....	....	....	....	....	1	....	....
Carleton College	....	....	....	1	....	....	....	....	....	....	....	....	....	....
St. Marys College	....	....	....	....	....	....	....	1	....	....	....	....	....	....
Franklin College	....	....	1	....	1	....	....	....	....	....	....	....	....	....

TABLE XIV—DEGREES CLASSIFIED BY INSTITUTION—(CONT.)

	B.L	B.Pd.	Ph.B.	B.S.	B.A.	M.Pd.	M.S.	M.A.	Ph.D.	M.L.	M.Di.	LL.D.	Ph.M.	M.D.
Ottawa University	....	....	....	....	1	....	....	....	....	....	....	....	....	....
De Pau University	....	....	....	....	1	....	....	....	....	....	....	....	....	....
Ripon College	....	....	....	....	1	....	....	1	....	....	....	....	....	....
Iowa State Teachers	....	....	....	....	....	....	....	....	....	....	2	....	....	....
Lawrence College	....	....	....	....	1	....	....	....	....	....	....	....	....	....
Coe College	....	....	....	....	1	....	....	....	....	....	....	....	....	....
Muskingum College	....	....	....	1	....	....	....	....	....	....	....	....	....	....
Benton Harbor College	....	1	....	....	....	....	....	....	....	....	....	....	....	....
N.Y.S. College for Teachers	....	1	....	....	1	....	....	....	....	....	....	....	....	....
Clark University	....	....	....	....	....	....	....	....	1	....	....	....	....	....
Oberlin College	....	....	....	....	1	....	....	....	....	....	....	....	....	....
Combined total—295	8	18	19	46	93	12	10	66	16	1	2	2	3	1

TABLE XV—MICHIGAN STATE NORMAL COLLEGE GRADUATES

	1 yr.	2 yr.	3 yr.	4 yr.	Total	Increase over 1911	% of Increase
1910–11	40	435	32	4	511	.....	.....
1911–12	149	545	32	7	733	222	43.4
1912–13	126	588	35	11	760	249	48.7
1913–14	111	648	38	15	812	301	58.9
1914–15	101	703	62	16	882	371	72.6
1915–16	108	675	89	15	887	376	73.6
1916–17	97	795	85	18	995	484	94.7
1917–18	90	714	82	15	901	390	76.3
1918–19	73	545	55	23	696	185	36.2
1919–20	44	467	25	28	564	53	10.4
1920–21	63	551	.....	49	663	152	29.7
Total	1,002	6,666	535	201	8,404	.....	.....
%	11.9	79.3	6.4	2.4	100.	.....	.....

TABLE XVI—WESTERN STATE NORMAL SCHOOL GRADUATES

	1 yr.	2 yr.	3 yr.	4 yr.	Non H.S. grads.	Total	Inc. over 1911	% Inc.	Summer session
1911–12	....	148	....	....	54	202	....	....	34
1912–13	19	172	....	....	45	236	34	16.8	21
1913–14	19	194	....	....	24	237	35	17.3	28
1914–15	23	212	....	....	36	271	69	34.2	24
1915–16	18	229	....	....	24	271	69	34.2	35
1916–17	36	291	....	....	18	345	143	70.8	54
1917–18	27	375	....	....	15	417	215	106.4	66
1918–19	21	305	....	6	11	343	141	69.8	51
1919–20	51	304	....	8	3	366	164	81.2	60
1920–21	60	165	....	10	....	235	33	16.3	42
Totals	274	2,395	....	24	230	2923	....	....	....
%	9.4	81.9	....	.9	7.8	100.	....	....	....

TABLE XVII—CENTRAL MICHIGAN NORMAL SCHOOL GRADUATES

	1 yr.	2 yr.	4 yr.	Non H.S.[1] Total grads.	Increase Total	Increase	% Increase
1910–11	64	104	....	56	224	....	....
1911–12	98	78	....	49	225	1	.5
1912–13	96	127	....	49	272	48	21.4
1913–14	78	129	....	38	245	21	9.4
1914–15	82	111	....	45	238	13	5.9
1915–16	71	169	....	41	281	57	25.4
1916–17	60	156	....	49	265	41	18.4
1917–18	59	119	....	35	213	−11	−4.9
1918–19	33	117	4	23	177	−47	−21.0
1919–20	55	130	11	17	213	−11	−4.9
1920–21	47	139	7	23	216	−8	−3.6
Totals	743	1,379	22	425	2,569	....	....
%	28.9	53.7	.9	16.5	100.	....	....

[1]—Central Michigan Normal School was organized as a private school in 1892 and so carried on until 1895, when by act of the Legislature it was taken over by the State. At that time this school was charged especially with the training of teachers for the rural schools. Students were admitted directly from the eighth grade without high school training, and it was not until 1903 that any life certificate graduates, with full high school credit as an admission requisite, were sent out from Central Normal. This explains why so many non-high school graduates appear in the enrollment. Central Normal still has rural courses to which students are admitted without graduation from the high school.

TABLE XVIII—NORTHERN STATE NORMAL SCHOOL GRADUATES

	Men	Women	Total[1]	Increase	% Increase over 1910–11
1910–11	3	92	95	....	....
1911–12	4	93	97	2	2.2
1912–13	9	115	124	29	30.6
1913–14	4	119	123	28	29.5
1914–15	9	116	125	30	31.6
1915–16	10	154	164	69	72.6
1916–17	26	169	195	100	105.3
1917–18	15	163	178	83	87.4
1918–19	12	121	133	38	40.0
1919–20	13	119	132	37	38.9
1920–21	13	125	138	43	45.3
Totals	118	1,386	1,504	....	....
%	7.8	92.2	100.	....	....

[1]—The numbers given include only students who have received life certificates or A. B. degrees.

TABLE XIX—MICHIGAN STATE NORMAL COLLEGE—SIZE OF CLASSES 1920–21

Course of study	Total no.	Less than 5	6–10	11–15	16–20	21–25	26–30	31–35	Over 35
Education	26	.....	5	2	.....	1	.....	.....	18
Psychology & Education	.....	.....	4	2	.....	1	.....	.....	16
Kindergarten	.....	.....	1	.....	.....	.....	.....	.....	2
Practice teaching	.....	.....	.....	.....	.....	.....	.....	.....	.....
Health	27	.....	3	2	.....	1	2	2	17
Languages	48	.....	8	5	8	6	11	5	5
Foreign	19	.....	8	4	5	1	1	.....	.....
English	26	.....	.....	1	3	5	10	5	2
Penmanship	3	.....	.....	.....	.....	.....	.....	.....	3
Library Methods	.....	.....	.....	.....	.....	.....	.....	.....	.....
Exact Sciences	37	2	5	5	9	7	3	2	4
Mathematics	13	1	1	2	2	2	.....	2	3
Biology	.....	.....	.....	.....	.....	.....	.....	.....	.....
Physics	5	.....	.....	2	2	.....	1	.....	.....
Chemistry	5	.....	1	1	1	2	.....	.....	.....
Natural Science	13	1	3	.....	3	3	2	.....	1
Astronomy	1	.....	.....	.....	1	.....	.....	.....	.....
Social Sciences	21	.....	5	4	3	1	1	3	4
History & Civics	12	.....	3	3	2	.....	.....	2	2
Geography	6	.....	2	1	1	.....	1	1	.....
Social Science	3	.....	.....	.....	.....	1	.....	.....	2
Vocational	11	3	2	2	4	.....	.....	.....	.....
Commerce	.....	.....	.....	.....	.....	.....	.....	.....	.....
Manual Arts	4	1	1	.....	2	.....	.....	.....	.....
Home Economics	7	2	1	2	2	.....	.....	.....	.....
Fine Arts	23	1	3	2	2	5	3	6	1
Art	10	.....	1	1	1	1	.....	5	1
Music	13	1	2	1	1	4	3	1	.....
Total classes	193	6	31	22	26	21	20	18	49
% Distribution	100.	3.1	16.1	11.4	13.5	10.8	10.4	9.3	25.4

	25 Percentile	Median	75 Percentile
Education	15	37	39
Health	28	37	39
Languages	15	23	30
Exact Sciences	13	20	25
Social Sciences	11	18	34
Vocational	5	12	18
Fine Arts	15	24	32
Total classes	14	24	36

TABLE XX—WESTERN STATE NORMAL SCHOOL—SIZE OF CLASSES 1920–21

Course of study	Total no.	Less than 5	6–10	11–15	16–20	21–25	26–30	31–35	Over 35
Education	115	10	11	11	7	10	11	9	46
Psychology & Education	85	2	9	10	5	9	7	8	35
Principles of teaching	18	2	.....	1	2	1	4	.....	8
Practice teaching	12	6	2	.....	.....	.....	.....	1	3
Health	115	22	12	12	17	5	1	9	37
Languages	153	14	18	19	16	18	23	18	27
Foreign	44	14	11	6	6	5	2	.....	.....
English	68	.....	5	5	4	8	17	14	15
Penmanship	.....	.....	.....	.....	.....	.....	.....	.....	.....
Reading & Speech	32	.....	2	8	6	5	4	3	4
Library Methods	9	.....	.....	.....	.....	.....	.....	1	8
Exact Sciences	80	6	16	9	17	14	4	5	9
Mathematics	32	1	4	3	9	9	1	3	2
Biology	19	1	2	1	7	5	.....	.....	3
Physics	12	3	5	.....	1	.....	1	2	.....
Botany	2	.....	1	.....	.....	.....	1	.....	.....
Chemistry	13	1	2	5	.....	.....	1	.....	4
Agriculture	2	.....	2	.....	.....	.....	.....	.....	.....
Social Sciences	81	.....	7	5	17	8	11	3	30
History & Civics	35	.....	5	3	4	1	5	.....	17
Geography	26	.....	1	2	8	4	2	2	7
Social Science	20	.....	1	.....	5	3	4	1	6
Vocational	97	12	17	20	20	14	7	2	5
Commerce	44	9	5	6	9	7	3	1	4
Manual Arts	30	3	9	10	3	2	3	.....	.....
Home Economics	23	.....	3	4	8	5	1	1	1
Fine Arts	71	2	16	23	11	8	3	4	4
Art	37	.....	6	16	3	6	3	2	1
Music	34	2	10	7	8	2	.....	2	3
Total classes	712	66	97	99	105	77	60	50	158
% Distribution	100.	9.3	13.6	13.9	14.7	10.8	8.5	7.0	22.2

	25 Percentile	Median	75 Percentile
Education	14	30	38
Health	9	19	36
Languages	13	24	33
Exact Sciences	10	19	25
Social Sciences	18	28	38
Vocational	10	15	22
Fine Arts	10	15	22
Total	12	20	34

TABLE XXI—CENTRAL MICHIGAN NORMAL SCHOOL—SIZE OF CLASSES 1920–21

Course of study	Total no.	Less than 5	6–10	11–15	16–20	21–25	26–30	31–35	Over 35
Education	58	8	11	16	5	6	5	3	4
Psychology & Education	22	.....	2	2	2	5	4	3	4
Rural School	3	2	1	.....	.....	.....	.....	.....	.....
Kindergarten	6	1	.....	1	2	1	1	.....	.....
Practice teaching	27	5	8	13	1	.....	.....	.....	.....
Health	33	.....	6	7	5	3	1	4	7
Languages	61	6	10	17	14	4	5	3	2
Foreign	14	6	5	3	.....	.....	.....	.....	.....
English	24	.....	3	7	7	3	1	3	.....
Reading	13	.....	1	1	4	1	4	.....	2
Library Methods	1	.....	.....	1	.....	.....	.....	.....	.....
Penmanship	9	.....	1	5	3	.....	.....	.....	.....
Exact Sciences	47	7	15	9	7	5	.....	2	2
Mathematics	19	5	2	5	2	3	.....	1	1
Biology	8	1	3	1	2	.....	.....	.....	1
Physics & Chemistry	9	.....	2	2	3	2	.....	.....	.....
Agriculture	11	1	8	1	.....	.....	.....	1	.....
Social Sciences	32	2	6	6	8	3	3	2	2
History & Civics	19	2	3	3	6	2	2	1	.....
Rural Sociology	2	.....	1	.....	1	.....	.....	.....	.....
Geography	11	.....	2	3	1	1	1	1	2
Vocational	32	6	7	11	5	3	.....	.....	.....
Commerce	15	.....	4	7	2	2	.....	.....	.....
Manual Arts	9	4	3	2	.....	.....	.....	.....	.....
Home Economics	8	2	.....	2	3	1	.....	.....	.....
Fine Arts	28	5	7	7	2	2	3	1	1
Drawing	14	2	2	4	1	1	3	.....	1
Music	14	3	5	3	1	1	.....	1	.....
Total classes	291	34	62	73	46	26	17	15	18
% Distribution	100.	11.6	21.4	25.1	15.8	8.9	5.8	5.2	6.2

	25 Percentile	Median	75 Percentile
Education	9	14	24
Health	12	19	33
Languages	9	15	21
Exact Sciences	7	11	18
Social Sciences	10	16	23
Vocational	7	12	16
Fine Arts	6	11	20
Total classes	9	14	21

TABLE XXII—NORTHERN STATE NORMAL SCHOOL—SIZE OF CLASSES 1920-21

Course of study	Total no.	Less than 5	6–10	11–15	16–20	21–25	26–30	31–35	Over 35
Health	38	2	5	2	2	3	3	2	19
Languages	67	5	16	10	5	6	1	9	15
Exact Sciences	34	1	8	7	6	2	3	2	5
Social Sciences	32	.....	3	.....	6	3	5	8	7
Vocational	91	1	25	29	5	5	3	7	16
Fine Arts	33	.....	12	4	3	5	8	.....	1
Total	295	9	69	52	27	24	23	28	63
% Distribution	100.	3.1	23.4	17.6	9.2	8.1	7.8	9.4	21.4

	25 Percentile	Median	75 Percentile
Health	17	36	39
Languages	10	18	35
Exact Sciences	10	17	28
Social Sciences	20	30	35
Vocational	10	14	31
Fine Arts	9	17	27
Total	10	19	34

TABLE XXIII—LENGTH OF FACULTY SERVICE AT MICHIGAN STATE NORMAL COLLEGE

Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	Total
24	1	1																																				2
25				1																																		1
26	1																																					1
27	1																																					1
29		1																																				1
30	2	2																																				4
31	1	1																																				2
32		1	1																																			2
33	1				1		1																															3
34	1		1	1		2																																5
35		1												1																								2
36	1	1																																				2
37					1																																	1
38											1																											1
39	1							1																														2
40				1		1					1																												3
41								1		1																												2
42							1			1									1																			3
43			1		1								1																										3
44					1																																	1

45										1					1	1																						3
46																1																						1
47	1																					1																2
49										1	1																		1									3
50			1			1					1										1	1																5
51								1								1						1	1															4
52												1									1																	2
53																					1	1																2
54									1																													1
55																			2		1						1											4
56												1							1																			2
57																											1											1
58																					1						1											2
59															1																							1
60																						1			1													2
61									1								1												2						1			5
64																													1									1
65																										1				1						1		2
66																									1								1					2
72																						1																1
Totals	11	8	4	3	4	4	2	3	2	4	4	2	1	1	2	2	1	1	4	1	4	6	1	...	2	...	3	...	4	1	...	...	1	...	1	1	...	88

Age

25 Percentile ....34 years
Median ....45 years
75 Percentile ....55 years

Years of Service

25 Percentile .... 3 years
Median ....10 years
75 Percentile ....21 years

TABLE XXIV—TOTAL YEARS OF SERVICE OF FACULTY AT THE MICHIGAN STATE NORMAL COLLEGE

Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	39	40	41	43	44	47	49	Total
24	1	1																																									2
25				1																																							1
26			1																																								1
27				1																																							1
29					1																																						1
30				1	1	1	1																																				4
31			1								1																																2
32		1								1																																	2
33					1								2																														3
34								1	2		1		1																														5
35										1					1																												2
36				1													1																										2
37												1																															1
38																		1																									1
39			1															1																									2
40					1								1						1																								3
41										1								1																									2
42																1				1		1																					3
43							1														1			1																			3
44																		1																									1
45																					2				1																		3
46																				1																								1

47								1																1																			2
49																								1					1	1													3
50													1									1		2							1												5
51																							1	1			2																4
52													1																1														2
53																											1					1											2
54									1																																		1
55																				1									1	1				1									4
56																			1															1									2
57																											1																1
58																														1				1									2
59																															1												1
60																																			1		1						2
61																																1			1	2		1					5
64																													1														1
65																																							2				2
66																																									1	1	2
72																																								1			1
Total	1	2	3	4	4	1	2	2	3	3	2	1	6	...	1	1	1	4	2	3	3	2	1	6	1	...	4	...	4	3	2	2	...	3	2	2	1	1	2	1	1	1	88

Age

25 Percentile .... 35 years
Median .... 45 years
75 Percentile .... 55 years

Years of Service

25 Percentile .... 10 years
Median .... 20 years
75 Percentile .... 29 years

TABLE XXV—LENGTH OF FACULTY SERVICE AT WESTERN STATE NORMAL

Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
22	1																															1
23	1																															1
24	1				1																											2
26			1		1																											2
27					1																											1
28			1				1																									2
29					1		1																									2
30			1	1																												2
31		2			1																											3
32	1	1																														2
33				2																												5
34							1					1																				2
35	1			1																												2
36		1		1		1	1																									4
37				1																												1
38		2				1	1						1																			5
39							2								1																	3
40				1		1																										2
41													2		1																	3
43				1								1																				2
44				1																												1
45			1					1				1																				3
46				1			1																									2
47					1											1																2
48						1																										1
50				1													1															2
53																	1															1
55		1																														1
57							1								1		1															3
58							1																									1
Total	8	7	4	11	6	4	10	1				3	3		3	1	3															64

Years of Service	
25 Percentile	3 years
Median	5 years
75 Percentile	7 years

Age	
25 Percentile	31 years
Median	37 years
75 Percentile	44 years

TABLE XXVI—TOTAL SERVICE OF FACULTY AT WESTERN STATE NORMAL SCHOOL

Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Total
22	1																																1
23	1																																1
24		1		1	1																												3
26			1		1																												2
27					1																												1
28						1	1																										2
29								1	1																								2
30						2																											2
31					1							2																					3
32								1		1																							2
33					1				1		1	2																					5
34									1					1																			2
35							1			1																							2
36						1								1	1		1																4
37								1																									1
38										1					2	1		1															5
39											1	1							1														3
40																			1	1													2
41														1					1				1										3
43															1						1												2
44									1																								1
45																		1			1					1							3
46																					1			1									2
47							1																		1								2
48																										1							1
50																							1						1				2
53																											1						1
55																																1	1
57																					1										1	1	3
58																										1							1
Total	2	1	1	1	5	3	2	4	3	3	2	4	3	3	3	2	1	2	3	1	4		2	1	1	3	1		1		1	2	65

Years of Service	
25 Percentile	8 years
Median	13 years
75 Percentile	20 years

Age	
25 Percentile	31 years
Median	37 years
75 Percentile	44 years

TABLE XXVII—LENGTH OF FACULTY SERVICE AT CENTRAL MICHIGAN NORMAL SCHOOL

Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total
25	1																								1
28	1																								1
29	1				1																				2
30		1																							1
31			1																						1
32	2																								2
33	1																								1
35	1	1			1																				3
37			1																						1
39			1													1									2
40															1										1
41								1																	1
42																						1			1
43		1																							1
44					1																				1
45				1							1										1				3
48																	1				1				2
49																						1			1
50														1										1	2
51																	1								1
54															1										1
55		1	1																	1					3
56																			1						1
63																								1	1
	7	4	4	1	3			1			1			1	2	1	2		1	1	2	2		2	35

Years of Service		Age	
25 Percentile	1 year	25 Percentile	33 years
Median	5 years	Median	42 years
75 Percentile	17 years	75 Percentile	49 years

TABLE XXVIII—TOTAL YEARS OF SERVICE CENTRAL MICHIGAN NORMAL SCHOOL FACULTY

Age	1	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	40	Total
25	1																															1
28				1																												1
29		1		1																												2
30			1																													1
31						1																										1
32				1			1																									2
33		1																														1
35									1	1	1																					3
37											1																					1
39													1	1																		2
40														1																		1
41							1																									1
42																			1													1
43																				1												1
44																				1												1
45																	1		1			1										3
48																								1		1						2
49																							1									1
50																								1		1						2
51																	1															1
54																							1									1
55																							1		1				1			3
56																														1		1
63																															1	1
	1	2	1	2		1	2		1	1	2		1	2			2		2	2		2	2	2	1	2			1	1	1	35

Years of Service		Age	
25 Percentile	9 years	25 Percentile	33 years
Median	19 years	Median	42 years
75 Percentile	26 years	75 Percentile	26 years

TABLE XXIX—LENGTH OF FACULTY SERVICE AT NORTHERN STATE NORMAL SCHOOL

Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total
22	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
27	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
28	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	.....
31	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
32	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
33	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
34	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
35	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	2
36	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1
39	...	...	1	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
40	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	2
41	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	2
42	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	3
43	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
44	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
45	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	2
47	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
48	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1
49	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1
50	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	2
53	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	1	3
55	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1
58	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
59	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1
Total	5	2	1	4	...	3	3	2	...	3	3	1	1	...	...	3	1	1	...	...	2	35

Years of Service	
25 Percentile	4 years
Median	7 years
75 Percentile	12 years

Age	
25 Percentile	35 years
Median	42 years
75 Percentile	49 years

TABLE XXX—TOTAL YEARS OF SERVICE NORTHERN STATE NORMAL SCHOOL FACULTY

Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	23	24	25	26	27	35	36	Total
22	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
27	..	..	..	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
28	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
31	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
32	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
33	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
34	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
35	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
36	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1
39	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	2	..	..	..	..	..	..	..	..	..	..	3
40	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	2
41	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	2
42	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	3
43	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1
44	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
45	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	2
47	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1
48	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1
49	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1
50	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	2
53	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	3
55	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1
58	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
59	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Total	..	1	..	1	1	1	1	..	2	3	2	2	2	2	1	..	2	1	1	2	2	2	2	2	1	1	2	38

Years of Service

25 Percentile.....10 years
Median.....14 years
75 Percentile.....24 years

Age

25 Percentile.....34 years
Median.....41 years
75 Percentile.....48 years

TABLE XXXI—DISTRIBUTION AND ANALYSIS OF ANNUAL EXPENDITURES—MICHIGAN STATE NORMAL COLLEGE

	1910–1911	1911–1912	1912–1913	1913–1914	1914–1915	1915–1916	1916–1917	1917–1918	1918–1919	1919–1920	1920–1921
I. Maintenance											
Administration											
1. Salaries	$12,238.10	$13,140.00	$14,600.00	$15,810.00	$15,300.00	$15,960.00	$15,950.00	$17,050.00	$18,950.00	$20,048.76	$25,815.97
2. Supplies											
a. Office	3,627.80	4,196.13	3,230.65	2,205.00	5,357.27	4,324.25	2,870.04	3,483.22	5,204.35	1,702.43	1,029.39
b. Stationery & postage	820.67	715.09	924.12	821.24	904.75	853.11	804.34	1,082.88	985.00	1,588.29	1,494.96
c. Telegrams			28.83	19.91	36.83	36.52	34.51	40.34	91.14	105.36	115.36
d. Incidental office expense										3,408.30	2,764.82
3. Transportation	685.81	668.27	462.94	558.36	395.92	448.20	512.67	265.53	504.92	1,288.82	925.79
4. Advertising	862.71	837.05	922.08	1,361.95	910.72	1,221.58	961.96	1,274.45	1,339.79	1,662.36	1,920.93
Total Administration	$18,235.09	$19,556.54	$20,168.62	$20,776.46	$22,905.49	$22,843.66	$21,133.52	$23,196.42	$27,075.20	$29,804.32	$34,067.22
Instruction											
1. Salaries	$120,687.45	$134,493.49	$141,444.94	$155,262.93	$159,856.97	$163,068.49	$166,850.94	$168,238.45	$172,161.11	$206,688.62	$269,701.42
2. Educational Supplies	4,705.30	6,746.48	6,744.56	6,087.28	6,361.81	6,974.21	6,223.43	7,390.91	7,318.85	7,481.74	9,875.70
Total Instruction	$125,392.75	$140,939.97	$148,189.50	$161,350.21	$166,218.78	$170,042.70	$173,074.37	$175,629.36	$179,479.96	$214,170.36	$279,577.12
Auxillary Agencies											
1. Health Service											
a. Salaries										$1,841.53	$2,161.32
b. Supplies									$1,106.52	$1,470.96	480.90
Total Auxiliary Agencies									$1,106.52	$3,312.49	$2,642.22
Operation											
1. Salaries	$9,365.52	$10,514.03	$11,250.32	$12,088.50	$13,205.36	$14,774.98	$15,635.78	$17,369.59	$23,773.96	$25,088.60	$33,268.06
2. Supplies	1,007.57	1,318.91	1,621.91	2,172.62	1,871.35	1,960.99	2,016.51	2,866.75	2,059.82	2,088.41	2,099.28
3. Fuel	6,706.67	6,436.28	7,780.56	9,995.79	10,634.91	9,364.78	14,068.64	35,434.92	11,533.17	19,529.28	34,366.23
4. Light	1,585.34	1,525.52	1,487.49	1,431.94	2,392.85	2,358.58	3,007.50	3,110.14	3,258.58	3,385.33	4,550.85

5. Gas	414.72	408.32	334.44	317.04	453.44	594.16	670.35	541.68	614.58	671.68	613.84
6. Telephone	129.76	159.75	215.20	384.90	436.96	463.35	387.74	463.88	509.01	727.76	873.30
7. Water	.....	1,401.16	608.60	.....	1,484.14	876.14	812.24	799.00	791.62	1,227.92	2,408.90
8. Insurance	187.50	.....	155.60	300.79	1,975.03	2,256.21	2,422.56	2,308.19	2,996.77	2,667.41	3,686.10
9. Interest	173.44	326.89	.....	.....	.....	.....	.....	.....	1,350.90	.....	.....
10. Taxes	.....	.....	.....	.....	33.22	157.20	179.26	.....	.....	.....	.....
Total Operation	$19,570.52	$22,090.86	$23,454.12	$26,691.58	$32,487.26	$32,806.39	$39,200.58	$62,894.15	$46,888.41	$55,386.39	$81,866.56
Maintenance											
1. General Repairs	$2,191.70	$3,154.62	$7,698.32	$3,164.55	$614.74	$3,264.54	$1,672.53	$3,839.06	$6,515.49	$16,429.79	$17,308.10
2. Special Repairs	.....	6,452.27	3,569.64	9,995.65	8,381.97	937.26	.....	5,934.11	6,441.34	176.58	9,721.49
Total Maintenance	$2,191.70	$9,606.89	$11,267.96	$13,160.20	$8,996.71	$4,201.80	$1,672.53	$9,773.17	$12,956.83	$16,606.37	$27,029.59
Grand Total Maintenance	$165,390.06	$192,194.26	$203,080.20	$221,978.45	$230,608.24	$229,894.55	$235,081.00	$271,493.10	$267,506.92	$319,279.93	$425,182.71
II. Capital Outlay											
1. New Equipment	$1,378.98	$7,331.10	$5,884.83	$4,770.95	$6,252.76	$23,408.07	$3,784.24	$7,253.72	$3,781.37	$10,284.07	$10,033.32
2. New Buildings	$12,007.18	8,668.11	969.92	34,610.79	122,066.28	18,657.57	90,553.75	109,839.52	9,855.80	.....	12,963.06
3. Additions	.....	.....	.....	1,000.00	.....	18,000.00	.....	.....	.....	.....	.....
4. Additions to Grounds	.....	296.33	.....	27,579.11	.....	13,365.00	.....	748.60	751.40	6,500.00	.....
Total Capital Outlay	$13,386.16	$16,295.54	$6,854.75	$67,960.85	$128,319.04	$73,430.64	$94,337.99	$117,841.84	$14,388.57	$16,784.07	$22,996.38
Grand Total Maintenance and Capital Outlay	$178,776.22	$208,489.80	$209,934.95	$289,939.30	$358,927.28	$303,325.19	$329,418.99	$389,334.94	$281,895.49	$336,064.00	$448,179.09

TABLE XXXII—DISTRIBUTION AND ANALYSIS OF ANNUAL EXPENDITURES—WESTERN STATE NORMAL SCHOOL

	1916–1917	1917–1918	1918–1919	1919–1920	1920–1921
I. Maintenance; Administration					
1. Salaries (President, Registrar, Dean of Women, Clerks & Stenographers)	$12,102.00	$14,954.00	$15,860.30	$20,130.15	$24,921.30
2. **Supplies**					
a. Office (including printing of blanks & bulletins)	2,707.67	2,072.59	2,848.28	2,750.41	5,435.64
b. Stationery and postage	750.84	1,228.60	868.38	1,116.70	1,683.40
c. Telegrams	158.01	188.77	379.48	296.48	547.22
d. Incidental office expense	.....	.....	.....	1,161.85	438.45
3. **Transportation**	128.07	58.43	45.14	276.55	209.57
4. **Advertising**	299.48	400.67	324.09	311.13	912.92
5. **Insurance**	978.16	999.43	1,423.17	1,099.54	1,365.38
6. **Taxes and Rents**	292.78	120.13	107.66	239.55	96.46
Total Administration	$17,417.01	$20,022.62	$21,856.50	$27,382.36	$35,610.34
Student help[1]	$4,619.55	$3,555.89	$3,880.98	$7,483.01	$14,337.82
Instruction a. Regular					
1. Salaries of faculty with exceptions noted under administration	$103,923.07	$109,396.67	$131,997.75	$147,126.85	$194,796.25
2. Educational Supplies	3,134.05	4,128.58	2,932.64	6,895.12	6,764.89
b. Summer					
1. Salaries of faculty with exceptions noted under administration	2,810.00	2,935.00	2,896.99	2,952.03	5,225.00
Total Instruction	$109,867.12	$116,460.25	$137,827.38	$156,974.00	$206,786.14
Auxiliary Agencies					
1. Health Service Salaries of doctors	$515.00	$745.00	$600.00	$800.00	$1,050.00
2. Entertainment (lectures, etc.)	517.50	530.00	606.21	456.00	978.87
Total Auxiliary Agencies	$1,032.50	$1,275.00	$1,206.21	$1,256.00	$2,028.87
Operation					
1. Salaries of janitors, engineers, etc.	$6,110.00	$8,557.98	$9,790.93	$14,262.21	$18,739.24
2. Supplies	1,445.09	1,550.87	1,736.60	2,118.51	2,771.79
3. Fuel	5,387.83	18,008.03	7,315.08	7,837.05	23,530.27
4. Light and power	1,706.16	1,348.88	2,159.46	2,159.62	2,752.61
5. Gas	354.11	221.00	277.72	321.07	575.63
6. Telephone	157.56	157.56	151.56	441.60	465.00
7. Water	457.94	1,326.36	741.66	1,177.65	1,219.00
8. Freight and cartage	372.42	302.17	884.90	533.99	1,066.20
Total Operation	$15,991.11	$31,472.85	$23,057.91	$28,851.70	$51,119.74
Maintenance—Any repairs or replacement to buildings and equipment etc.	$2,450.20	$5,271.84	$6,785.04	$9,114.19	$13,363.48
Grand Total Maintenance	$151,377.49	$178,058.45	$194,614.02	$231,061.26	$323,246.39
II. Capital Outlay					
1. New equipment	9,996.55	9,439.52	10,380.93	11,172.50	17,969.36
2. New buildings	.....	1,376.78	.....	3,520.00	75,765.53
3. Additions	505.00	.....	.....	.....	817.30
4. Alterations & repairs	.....	.....	.....	.....	.....
5. Additions to grounds (including fence, walks)	11,667.90	.....	5,900.00	166.50	10,175.00
Total Capital Outlay	$22,169.45	$10,816.30	$16,280.93	$14,859.00	$104,727.19
Grand Total Maintenance and Capital Outlay	$173,546.94	$188,874.75	$210,894.95	$245,920.26	$427,973.58

1—Added to instruction on table.

TABLE XXXIII—DISTRIBUTION AND ANALYSIS OF ANNUAL EXPENDITURES, CENTRAL MICHIGAN NORMAL SCHOOL

	1910–1911	1911–1912	1912–1913	1913–1914	1914–1915	1915–1916	1916–1917	1917–1918	1918–1919	1919–1920	1920–1921
I. Maintenance											
Administration											
1. Salaries (President, Registrar, Dean of Women, Clerks & Stenographers)	$6,379.82	$6,450.00	$7,200.00	$7,650.00	$7,350.00	$8,038.00	$7,820.00	$7,600.00	$8,084.00	$10,711.70	$17,864.69
2. Supplies	2,541.94	2,633.74	526.51	2,785.73	4,193.50	4,190.89	5,261.70	5,501.48	5,955.56	4,384.21	6,340.51
a. Office	1,223.52	1,562.14	1,238.48	1,420.07	2,628.45	2,063.67	2,956.28	3,070.60	2,900.28	1,941.93	3,720.76
b. Stationery & postage	626.86	456.04	643.23	672.91	457.15	651.10	731.76	809.45	1,143.20	981.16	823.78
c. Telegrams	79.20	62.19	64.91	60.04	28.35	63.55	104.56	96.13	94.76	63.65	90.25
d. Incidental office expense	612.36	553.37	579.89	632.71	1,079.55	1,412.57	1,469.10	1,525.30	1,817.42	1,397.47	1,705.72
3. Transportation	436.75	252.15	175.18	189.99	360.58	490.17	267.87	292.56	421.00	1,225.36	1,427.60
4. Publicity	244.00	280.82	469.42	1,010.32	267.30	828.39	270.79	400.17	420.20	294.18	958.97
Total Administration	$12,144.45	$12,250.45	$12,897.62	$14,421.77	$16,364.88	$17,738.34	$18,882.06	$19,295.69	$20,836.42	$20,999.66	$32,932.28
Instruction											
a. Regular											
1. Salaries of faculty with exceptions noted under administration	$55,720.00	$57,050.00	$58,463.14	$60,028.20	$63,911.89	$65,525.00	$62,245.60	$67,403.52	$60,603.45	$68,375.86	$102,058.51
2. Educational supplies	2,761.04	3,372.04	2,681.17	4,337.32	3,073.09	2,691.77	2,208.55	2,018.56	3,000.26	1,563.58	1,450.78
b. Summer											
1. Salaries of faculty with exceptions noted under administration	1,220.00	1,892.67	2,270.00	2,655.00	2,145.00	3,440.00	3,905.00	4,120.00	2,933.00	4,575.00	4,249.80
2. Educational supplies	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
c. Extension											
1. Salaries of faculty with exceptions noted under administration	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
2. Educational supplies	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total Instruction	$59,701.04	$62,314.71	$63,414.31	$67,020.52	$69,129.98	$71,656.77	$68,358.65	$73,542.08	$66,536.71	$74,514.44	$107,759.09
Auxiliary Agencies											
1. Health service	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
a. Salaries of doctors or nurse	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

TABLE XXXIII—Continued.

	1910-1911	1911-1912	1912-1913	1913-1914	1914-1915	1015-1916	1916-1917	1917-1018	1918-1919	1919-1920	1920-1921
b. Supplies											
c. Other expense											
2. Dormitories & Commons											
Total Auxiliary Agencies											
Operation											
1. Salaries of janitors, engineers, supts. of buildings & grounds	$5,219.17	$5,311.61	$5,550.41	$5,980.06	$6.244.05	$5,856.23	$7,031.80	$7,090.10	$7,560.11	$7,450.00	$10,201.20
2. Supplies	1,176.86	1,139.11	956.57	959.31	1,369.75	1,928.92	1,380.76	793.34	1,392.90	1,384.17	1,944.21
3. Fuel	4,275.79	4,067.83	3,377.05	3,994.67	4,604.90	5,464.90	6,244.55	6,094.97	15,256.89	4,464.88	16.279.62
4. Light	367.44	627.28	917.58	576.16	529.54	1,017.97	854.63	883.29	1,129.10	654.36	1,336.02
5. Gas					39.84	44.42	123.97	134.84	304.10	342.39	363.96
6. Telephone	129.20	130.40	120.00	120.00	133.50	154.94	154.50	250.40	518.52	334.02	464.35
7. Water	144.00	114.53	130.53	481.34	342.05	99.82	280.17	246.58	580.61	341.24	275.71
Total Operation	$11,312.46	$11,390.76	$11,052.14	$12,111.54	$13,263.63	$14,567.20	$16,070.38	$15,493.52	$26,742.23	$14,971.06	$30,865.07
Maintenance Any repairs or replacements to buildings & equipment											
Total Maintenance	$326.10	$928.47	$1,071.78	$1,157.34	$484.38	$1,443.01	$475.10	$1,787.53	$699.74	$3,309.89	$4,508.16
Grand Total Maintenance	$83,484.05	$86,884.39	$88,435.85	$94,711.17	$99,242.87	$105,405.32	$103,786.19	$110,118.82	$114,815.10	$113,795.05	$176,064.60
II. Capital Outlay											
1. New equipment	$168.78	$170.78	$248.70	$1,442.49	$2,182.10	$25,389.92	$2,022.33	$3,284.10	$3,222.26	$4,785.06	$4,271.07
2. New buildings		2,822.97	2,658.18	23,995.06	58,396.50	1,485.00	1,119.73		108.74		
3. Additions				401.88	9,561.79	2,308.84		1,987.40		133.86	349.30
4. Alterations & repairs	13,115.63	32.73				1,050.00	100.00		994.13	1,445.50	
5. Additions to grounds											
Total Capital Outlay	$13,284.41	$3,026.48	$2,906.88	$25,839.43	$70,140.39	$30,233.76	$3,242.06	$5,271.50	$4,325.13	$6,364.42	$4,620.37
Grand Total Maintenance and Capital Outlay	$96,768.46	$89,910.87	$91,342.73	$120,550.60	$169,383.26	$135,639.08	$107,028.25	$115,390.32	$119,140.23	$120,159.47	$180,684.97

TABLE XXXIV—DISTRIBUTION AND ANALYSIS OF ANNUAL EXPENDITURES, NORTHERN STATE NORMAL SCHOOL

	1916–1917	1917–1918	1918–1919	1919–1920	1920–1921
I. Maintenance					
Administration					
1. Salaries (President, Registrar, Dean of Women, Clerks)	$6,570.00	$6,930.00	$7,950.00	$9,795.00	$11,700.00
2. **Supplies**					
a. Office	486.42	454.13	264.79	286.18	518.12
b. Stationery and postage	401.42	416.56	465.19	671.95	819.85
c. Telegrams	3.64	.....	19.85	38.10	82.62
d. Incidental office expense	1,182.86	1,512.64	1,611.71	1,894.07	1,841.78
3. **Transportation**	439.46	558.46	986.39	1,022.99	1,135.42
4. **Advertising**	984.81	1,286.92	961.36	1,123.58	783.29
Total Administration	$10,068.61	$11,158.71	$12,259.29	$15,131.87	$16,881.08
Instruction					
a. Regular					
1. Salaries of faculty	$49,298.55	$56,227.98	$62,382.94	$72,016.90	$99,603.40
2. Educational supplies	1,761.43	3,122.03	1,643.52	3,168.39	2,475.30
b. Summer					
1. Salaries of faculty	1,025.00	1,052.60	1,115.00	870.00	980.00
Total Instruction	$52,084.98	$60,402.61	$65,141.46	$76,055.29	$103,058.70
Auxiliary Agencies					
1. Health Service	$300.00	$280.41	$300.00	$300.00	$300.00
a. Salaries of doctors					
Total Auxiliary Agencies	$300.00	$280.41	$300.00	$300.00	$300.00
Operation					
1. Salaries of janitors, engineers, supts. of buildings and grounds	$4,110.00	$4,727.46	$5,445.00	$6,014.90	$7,445.80
2. Supplies	616.41	501.37	350.12	351.37	380.11
3. Fuel	3,130.48	9,394.47	4,010.91	6,556.27	7,179.54
4. Light	646.20	591.24	508.94	649.52	822.72
5. Gas	48.79	58.36	41.42	49.14	75.81
6. Telephone	105.57	131.38	285.41	104.10	206.96
7. Water	230.04	193.83	131.30	224.29	250.74
Total Operation	$8,887.49	$15,598.11	$10,773.10	$13,999.59	$16,361.68
Maintenance					
Any repairs or replacement to buildings and equipment	$1,044.29	$1,624.87	$1,247.74	$2,260.39	$1,561.79
Total Maintenance	$1,044.29	$1,624.87	$1,247.74	$2,260.39	$1,561.79
Grand Total Maintenance	$72,385.37	$89,064.71	$89,721.59	$107,747.14	$138,163.25
II. Capital Outlay					
1. New equipment	$765.63	$2,817.66	$3,593.63	$3,766.33	$2,827.39
2. New buildings	.....	2,074.30[1]	.....	4,500.00[1]	4,015.37[1]
3. Additions	.....	.....	.....	.....	.....
4. Alterations and repairs	.....	1,000.00[1]	.....	.....	120.00
5. Addtions to grounds	.....	393.64[1]	.....	.....	.....
Total Capital Outlay	$765.63	$6,285.60	$3,593.63	$8,266.33	$6,962.76
Grand Total Maintenance and Capital Outlay	$73,151.00	$95,350.31	$93,315.22[2]	$116,013.47	$145,126.01

[1]—Special appropriations.

[2]—1918–1919 $1,517.38 special appropriations.

TABLE XXXV—MAINTENANCE FUND TOTALS—FOUR NORMAL SCHOOLS—1910-1921

Year	Michigan State	Western State	Central Normal	Northern State	Total	Increase over 1910	Per cent increase
1910-11	$165,390.06	$86,440.50	$83,484.05	$53,949.48	$389,264.09	.....	.....
1911-12	192,194.26	86,440.50	86,884.39	51,980.03	417,499.18	28,235.09	7.3
1912-13	203,080.20	98,664.75	88,435.85	61,227.96	451,408.76	62,144.67	16.0
1913-14	221,978.45	119,697.99	94,711.17	62,214.23	498,601.84	109,337.75	28.1
1914-15	230,608.24	126,602.52	99,242.87	63,554.28	520,007.91	130,743.82	33.6
1915-16	229,894.55	148,206.52	105,405.32	73,002.05	556,508.44	167,244.35	43.0
1916-17	235,081.00	151,377.49	103,786.19	72,385.37	562,630.05	173,365.96	44.5
1917-18	271,493.10	178,058.45	110,118.82	89,064.71	648,735.08	259,470.99	66.7
1918-19	267,506.92	194,614.02	114,815.10	89,721.59	666,657.63	277,393.54	71.3
1919-20	319,279.93	231,061.26	113,795.05	107,747.14	771,883.38	382,619.29	98.3
1920-21	425,182.71	323,246.39	176,064.60	138,163.25	1,062,656.95	673,392.86	173.0
Total	$2,761,689.42	$1,744,410.39	$1,176,743.41	$863,010.09	$6,545,853.31		

TABLE XXXVI—MICHIGAN STATE NORMAL COLLEGE—PER CENT DISTRIBUTION OF ANNUAL EXPENDITURES

Function	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18	1918-19	1919-20	1920-21	Average %
Administration	11.0	10.2	9.9	9.4	9.9	9.9	9.0	8.6	10.1	9.3	8.0	9.6
Instruction	75.9	73.3	73.0	72.7	72.1	74.0	73.6	64.6	67.2	67.1	65.7	70.8
Aux. Agencies	.....	.....	.....	.....	.....	.....	.....	.....	.4	1.0	.6	.2
Operation	11.8	11.5	11.6	12.0	14.1	14.3	16.7	23.2	17.5	17.4	19.3	15.4
Maintenance	1.3	5.0	5.5	5.9	3.9	1.8	.7	3.6	4.8	5.2	6.4	4.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE XXXVII—WESTERN STATE NORMAL SCHOOL—PER CENT DISTRIBUTION OF ANNUAL EXPENDITURES

Function	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18	1918-19	1919-20	1920-21	Average %
Administration[1]	.....	.....	.....	.....	.....	.....	11.5	11.2	11.2	11.9	11.0	11.4
Instruction	.....	.....	.....	.....	.....	.....	75.6	67.4	72.8	71.2	68.5	71.1
Aux. Agencies	.....	.....	.....	.....	.....	.....	.7	.7	.6	.5	.6	.6
Operation	.....	.....	.....	.....	.....	.....	10.6	17.7	11.9	12.5	15.8	13.7
Maintenance	.....	.....	.....	.....	.....	.....	1.6	3.0	3.5	3.9	4.1	3.2
Total	.....	.....	.....	.....	.....	.....	100.0	100.0	100.0	100.0	100.0	100.0

1—Not available for 1910-1916.

TABLE XXXVIII—CENTRAL MICHIGAN NORMAL SCHOOL—PER CENT DISTRIBUTION OF ANNUAL EXPENDITURES

Function	1910–11	1911–12	1912–13	1913–14	1914–15	1915–16	1916–17	1917–18	1918–19	1919–20	1920–21	Average %
Administration	14.5	14.1	14.6	15.2	16.5	16.8	18.2	17.5	18.2	18.5	18.7	16.6
Instruction	71.5	71.7	71.7	70.8	69.6	68.0	65.8	66.8	57.9	65.5	61.2	67.3
Aux. Agencies	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Operation	13.6	13.1	12.5	12.8	13.4	13.8	15.5	14.1	23.3	13.1	17.5	14.8
Maintenance	.4	1.1	1.2	1.2	.5	1.4	.5	1.6	.6	2.9	2.6	1.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.00	100.0	100.0	100.0

TABLE XXXIX—NORTHERN STATE NORMAL SCHOOL—PER CENT DISTRIBUTION OF ANNUAL EXPENDITURES

Function	1910–11	1911–12	1912–13	1913–14	1914–15	1915–16	1916–17	1917–18	1918–19	1919–20	1920–21	Average %
Administration[1]	.....	.....	.....	.....	.....	.....	13.9	12.5	13.7	14.0	12.2	13.3
Instruction	.....	.....	.....	.....	.....	.....	72.0	67.9	72.6	70.6	74.7	71.6
Aux. Agencies	.....	.....	.....	.....	.....	.....	.4	.3	.3	.3	.2	.3
Operation	.....	.....	.....	.....	.....	.....	12.3	17.5	12.0	13.0	11.8	13.3
Maintenance	.....	.....	.....	.....	.....	.....	1.4	1.8	1.4	2.1	1.1	1.5
Total	.....	.....	.....	.....	.....	.....	100.0	100.0	100.0	100.0	100.0	100.0

[1]—Not available 1910–16.

TABLE XL—MICHIGAN STATE NORMAL COLLEGE—DETAILED COSTS

Year	Regular year membership	Summer school membership	Total membership reg. and summer	Regular year recitation hours	Summer school recitation hours	Total recitation hrs. reg. & sum.	Adm. cost per recitation hour	Inst. cost per recitation hour	Operating costs per recitation hour	Total cost per recitation hour
1910–11	1,559	1,291	2,850	897,984	123,936	1,021,920	$.0178	$.1227	$.0213	$.1618
1911–12	1,641	1,419	3,060	945,216	136,224	1,081,440	.0181	.1303	.0293	.1777
1912–13	1,616	1,507	3,123	930,816	144,672	1,075,488	.0188	.1500	.0323	.2011
1913–14	1,670	1,340	3,010	961,920	128,640	1,090,560	.0191	.1480	.0365	2036
1914–15	1,702	1,535	3,237	980,352	147,360	1,127,712	.0203	.1474	.0368	.2045
1915–16	1,704	1,662	3,366	981,504	159,552	1,141,056	.0200	.1490	.0324	.2014
1916–17	1,825	1,939	3,764	1,051,200	186,144	1,237,344	.0171	.1399	.0330	.1900
1917–18	1,490	1,608	3,098	858,240	154,368	1,012,608	.0229	.1734	.0718	.2681
1918–19	948	1,475	2,423	546,048	141,600	687,648	.0394	.2610	.0886	.3890
1919–20	1,199	1,514	2,713	690,624	145,344	835,968	.0357	.2562	.0901	.3820
1920–21	1,295	1,705	3,000	745,920	163,680	909,600	.0375	.3074	.1226	.4675

TABLE XLI—WESTERN STATE NORMAL SCHOOL—DETAILED COSTS

Year	Regular year membership	Summer school membership	Total membership reg. and summer	Regular year recitation hours	Summer school recitation hours	Total recitation hrs. reg. and summer	Adm. cost per recitation hr.	Inst. cost per recitation hr.	Operating cost per recitation hour	Total cost per recitation hr.
1910–11	612	834	1,446	352,512	80,064	432,576	[1]	[1]	[1]	$.1998
1911–12	635	824	1,459	365,760	79,104	444,864	.....	.....	.....	.1943
1912–13	678	855	1,533	390,528	82,080	472,608	.....	.....	.....	.2088
1913–14	614	845	1,459	353,664	81,120	434,784	.....	.....	.....	.2753
1914–15	670	820	1,490	385,920	78,720	464,640	.....	.....	.....	.2725
1915–16	653	931	1,584	376,128	89,376	465,504	.....	.....	.....	.3184
1916–17	797	1,222	2,019	459,072	117,312	576,384	$.0302	$.1986	$.0338	.2626
1917–18	713	896	1,609	410,688	86,016	496,704	.0403	.2416	.0765	.3584
1918–19	930	1,011	1,941	535,680	97,056	632,736	.0345	.2240	.0491	.3076
1919–20	908	1,004	1,912	523,008	96,384	619,392	.0442	.2655	.0633	.3730
1920–21	902	1,033	1,935	519,552	99,168	618,720	.0576	.3574	.1075	.5225

[1]—Detailed cost records not available 1910–1916.

TABLE XLII—CENTRAL MICHIGAN NORMAL SCHOOL—DETAILED COSTS

Year	Regular year membership	Summer school membership	Total membership reg. and summer	Regular year recitation hrs.	Summer school recitation hours	Total recitation hrs. reg. and summer	Adm. cost per recitation hour	Inst. cost per recitation hour	Operating cost per recitation hour	Total cost per recitation hour
1910–11	512	542	1,054	294,912	52,032	346,944	$.0350	$.1721	$.0335	$.2406
1911–12	536	396	932	308,736	38,016	346,752	.0353	.1797	.0355	.2505
1912–13	457	442	899	263,232	42,432	305,664	.0422	.2075	.0397	.2894
1913–14	476	512	988	274,176	49,152	323,328	.0446	.2073	.0410	.2929
1914–15	507	515	1,022	292,032	49,440	341,472	.0479	.2024	.0403	.2906
1915–16	491	755	1,246	282,816	72,480	355,296	.0499	.2017	.0451	.2967
1916–17	469	530	999	270,144	50,880	321,024	.0588	.2129	.0515	.3232
1917–18	331	719	1,050	190,656	69,024	259,680	.0743	.2832	.0665	.4240
1918–19	533	751	1,284	307,008	72,096	379,104	.0550	.1755	.0724	.3029
1919–20	411	980	1,391	236,736	94,080	330,816	.0635	.2252	.0553	.3440
1920–21	484	1,373	1,857	278,784	131,808	410,592	.0802	.2624	.0861	.4287

TABLE XLIII—NORTHERN STATE NORMAL SCHOOL—DETAILED COSTS

Year	Regular year membership	Summer school membership	Total membership reg. and summer	Regular year recitation hours	Summer school recitation hours	Total recitation hrs. reg. and summer	Adm. cost per recitation hour	Inst. cost per recitation hour	Operating cost per recitation hour	Total cost per recitation hour
1910–11	292	296	588	168,192	28,416	196,608	[1]	[1]	[1]	$.2744
1911–12	358	345	703	206,208	33,120	239,328	.....	.....	.....	.2172
1912–13	380	378	758	218,880	36,288	255,168	.....	.....	.....	.2400
1913–14	305	408	713	175,680	39,168	214,848	.....	.....	.....	.2896
1914–15	395	413	808	227,520	39,648	267,168	.....	.....	.....	.2379
1915–16	437	566	1,003	251,712	54,336	306,048	.....	.....	.....	.2385
1916–17	500	623	1,123	288,000	59,808	347,808	$.0290	$.1498	$.0294	.2082
1917–18	374	534	908	215,424	51,264	266,688	.0418	.2265	.0656	.3339
1918–19	395	505	900	227,520	48,480	276,000	.0444	.2360	.0446	.3250
1919–20	322	568	890	185,472	54,528	240,000	.0630	.3169	.0690	.4489
1920–21	366	666	1,032	210,816	63,936	274,752	.0614	.3751	.0663	.5028

[1]—Detailed cost records not available for years 1910 through 1916.

TABLE XLIV—SALARY DISTRIBUTION—CONSOLIDATION OF FOUR NORMAL SCHOOLS

	1913–14	1914–15	1915–16	1916–17	1917–18	1918–19	1919–20	1920–21
7000–7499	.....	.....	.....	.....	.....	.....	.....	1
6500–6999	.....	.....	.....	.....	.....	.....	.....	1
6000–6499	.....	.....	.....	.....	.....	.....	1	1
5500–5999	.....	.....	.....	.....	.....	2	1	1
5000–5499	1	1	1	1	2	.....	2	1
4500–4999	.....	.....	1	1	.....	1	.....	3
4000–4499	1	1	1	1	2	1	1	40
3500–3999	2	2	1	1	.....	.....	31	8
3000–3499	.....	.....	.....	.....	9	34	12	19
2500–2999	35	36	39	37	30	14	18	28
2000–2499	18	18	17	23	26	32	34	87
1500–1999	33	31	33	42	41	68	97	38
1000–1499	85	98	106	100	108	63	38	22
500– 999	27	35	25	22	17	15	10	9
0– 499	2	4	3	5	3	1	4	.....
Total	204	226	227	233	238	231	249	259
25 Percentile	1,129.42	1,089.29	1,135.61	1,156.25	1,182.87	1,331.35	1,552.84	1,944.08
Median	1,429.41	1,377.55	1,403.30	1,447.50	1,458.34	1,768.39	1,873.71	2,347.71
75 Percentile	2,166.67	2,041.66	2,095.59	2,125.00	2,182.69	2,410.15	2,604.17	3,269.74
25 Percentile	.....	−40 13	6.19	26.83	53.45	201.93	423.42	814.66
Median	.....	−51.86	−26.11	18.09	28.93	338.98	444.30	918.30
75 Percentile	.....	−125.01	−71.08	−41.67	16.02	243.48	437.50	1103.07
25 Percentile	.....	−3.5	.5	2.3	4.7	17.8	37.5	72.1
Median	.....	−3.6	−1.8	1.3	2.0	23.7	31.1	64.3
75 Percentile	.....	−5.8	−3.3	−1.9	.7	11.2	20.2	50.9

TABLE XLV—SALARY DISTRIBUTION MICHIGAN STATE NORMAL COLLEGE

	1913–14	1914–15	1915–16	1916–17	1917–18	1918–19	1919–20	1920–21
6001–6500	.....	.....	.....	.....	.....	.....	.....	1
5501–6000	.....	.....	.....	.....	.....	1	1	.....
5001–5500	1	1	1	1	1	.....	.....	.....
4501–5000	.....	.....	.....	.....	.....	.....	.....	.....
4001–4500	.....	.....	.....	.....	.....	.....	.....	17
3501–4000	.....	.....	.....	.....	.....	.....	14	.....
3001–3500	.....	.....	.....	.....	.....	12	3	9
2501–3000	16	15	15	14	17	5	3	4
2001–2500	7	6	6	8	4	7	11	43
1501–2000	11	12	11	16	17	30	38	12
1001–1500	36	41	44	43	46	22	15	14
501–1000	20	19	17	10	10	11	8	3
0– 500	2	2	2	5	3	1	4	.....
Totals	93	96	96	97	98	89	97	103
25 Percentile	1,017.36	1,036.59	1,056.82	1,107.56	1,125.00	1,232.95	1,408.34	1,864.58
Median	1,340.00	1,329.27	1,329.55	1,389.53	1,391.30	1,675.00	1,782.90	2,261.63
75 Percentile	2,053.57	1,916.67	1,909.09	1,960.94	1,926.47	2,196.43	2,352.27	3,069.44
Inc. over 1913-14 25 Percentile	.....	19.23	39.46	90.20	107.64	215.59	390.98	847.22
Median	.....	−10.73	−10.45	49.53	51.30	335.00	442.90	921.63
75 Percentile	.....	−136.90	−144.48	−92.63	−127.10	142.86	298.70	1,015.87
Per cent over 1913-14 25 Percentile	.....	1.9	3.9	8.8	10.5	21.1	38.3	83.3
Median	.....	− .8	− .8	3.7	3.8	25.0	33.0	68.7
75 Percentile	.....	−6.7	7.0	−4.5	−6.2	7.0	14.5	49.5

TABLE XLVI—SALARY DISTRIBUTION WESTERN STATE NORMAL SCHOOL

	1913–14	1914–15	1915–16	1916–17	1917–18	1918–19	1919–20	1920–21
6500–6999	.....	.....	.....	.....	.....	.....	.....	1
6000–6499	.....	.....	.....	.....	.....	.....	1	.....
5500–5999	.....	.....	.....	.....	.....	1	.....	.....
5000–5499	.....	.....	.....	.....	1	.....	.....	.....
4500–4999	.....	.....	1	1	.....	.....	.....	1
4000–4499	1	1	.....	.....	.....	.....	1	11
3500–3999	.....	.....	.....	.....	.....	.....	9	4
3000–3499	.....	.....	.....	.....	9	12	4	4
2500–2999	8	8	10	12	.....	2	7	8
2000–2499	5	5	4	3	8	11	8	22
1500–1999	8	5	8	12	11	20	28	16
1000–1499	21	27	31	27	30	19	10	7
500– 999	5	12	5	9	5	2	.....	3
100– 499	.....	2	1	.....	.....	.....	.....	.....
Total	48	60	60	64	64	67	68	77
25 Percentile	1,166.67	1,018.52	1,145.16	1,129.63	1,183.34	1,388.16	1,625.00	1,789.07
Median	1,452.37	1,296.29	1,387.09	1,425.93	1,450.00	1,812.50	1,928.58	2,284.09
75 Percentile	2,200.00	1,900.00	2,000.00	2,000.00	2,125.00	2,420.45	2,857.15	3,218.75
Inc. over 1913-14 25 Percentile	.....	−148.15	−21.51	−37.04	16.67	221.49	458.33	622.40
Median	.....	−156.08	−65.28	−26.44	−2. 37	360.13	476.21	831.22
75 Percentile	.....	−300.00	−200.00	−200.00	−75.00	220.45	657.15	1,018.75
Per cent Inc. over 1913-14 25 Percentile	.....	−12.7	−1.8	−3.2	1.3	18.9	39.3	53.4
Median	.....	−10.7	−4.5	−1.8	−.2	24.8	32.8	57.2
75 Percentile	.....	−13.6	−9.1	−9.1	−3.4	10.0	29.9	46.3

TABLE XLVII—SALARY DISTRIBUTION CENTRAL MICHIGAN NORMAL SCHOOL

	1913–14	1914–15	1915–16	1916–17	1917–18	1918–19	1919–20	1920–21
5500–5999								1
5000–5499							1	
4500–4999								
4000–4499					1	1		7
3500–3999	1	1	1	1			7	3
3000–3499						9	3	
2500–2999	8	10	10	8	10	1		9
2000–2499	3	3	2	5	4	7	9	10
1500–1999	6	7	7	7	6	7	13	9
1000–1499	19	18	18	18	18	14	11	1
500– 999	1	3	3	3	2	2	2	3
0– 499	(a) 3							
Total	41	42	41	42	41	41	46	43
25 Percentile	1,223.69	1,208.33	1,201.39	1,208.33	1,229.17	1,294.65	1,431.82	1,875.00
Median	1,473.68	1,499.00	1,486.11	1,499.00	1,541.67	1,821.43	1,884.62	2,425.00
75 Percentile	2,416.67	2,525.00	2,537.50	2,350.00	2,537.50	2,875.00	2,472.22	3,541.67
Increase over 1913-14 25 Percentile		−15.36	−22.30	−15.36	5.48	70.96	208.13	651.31
Median		25.32	12.43	25.32	67.99	347.75	410.94	951.32
75 Percentile		108.33	120.83	−66.67	120.83	458.33	55.55	1.125.00
Per cent Inc. over 1913-14 25 Percentile		−1.2	−1.8	−1.2	.4	5.7	17.0	53.2
Median		1.7	.8	1.7	4.5	23.6	27.8	64.6
75 Percentile		4.5	4.9	−2.7	4.9	18.9	2.3	46.6

(a) Not counted in computing medians and quartiles.

TABLE XLVIII—SALARY DISTRIBUTION NORTHERN STATE NORMAL SCHOOL

	1913–14	1914–15	1915–16	1916–17	1917–18	1918–19	1919–20	1920–21
7000–7499	.....	.....	.....	.....	.....	.....	.....	1
6500–6999	.....	.....	.....	.....	.....	.....	.....	1
6000–6499	.....	.....	.....	.....	.....	.....	.....	.....
5500–5999	.....	.....	.....	.....	.....	.....	.....	.....
5000–5499	.....	.....	.....	.....	.....	.....	1	1
4500–4999	.....	.....	.....	.....	.....	1	.....	2
4000–4499	.....	.....	1	1	1	.....	.....	5
3500–3999	1	1	.....	.....	.....	.....	1	1
3000–3499	.....	.....	.....	.....	.....	1	2	6
2500–2999	3	3	4	3	3	6	8	7
2000–2499	3	4	5	7	10	7	6	12
1500–1999	8	7	7	7	7	11	18	1
1000–1499	9	12	13	12	14	8	2	.....
500– 999	1	1	.....	.....	.....	.....	.....	.....
Totals	25	28	30	30	35	34	38	36
25 Percentile	1,291.67	1,250.00	1,288.47	1,312.50	1,312.50	1,522.73	1,708.34	2,333.33
Median	1,656.25	1,571.43	1,642.86	1,714.28	1,750.00	1,909.00	1,972.23	2,857.14
75 Percentile	2,125.00	2,125.00	2,250.00	2,250.00	2,262.50	2,464.28	2,656.25	4,000.00
Inc. over 1913-14 25 Percentile	.....	−41.67	−3.20	20.83	20.83	231.06	416.67	1,041.60
Median	.....	−84.82	−13.39	58.03	93.75	252.84	315.98	1,200.89
75 Percentile	.....	.....	125.00	125.00	137.50	339.28	531.25	1,875.00
Per cent Inc. over 1913-14 25 Percentile	.....	−3.2	−.2	1.6	1.6	17.9	32.3	80.6
Median	.....	−5.1	−.8	3.5	5.6	15.2	19.0	72.5
75 Percentile	.....	.....	5.9	5.9	6.5	15.9	25.0	88.2

TABLE XLIX—SALARY DISTRIBUTION UNIVERSITY OF MICHIGAN

Salary Group	1913–14	1920–21
$15,001-$20,000	.....	1
10,001- 15,000	.....	1
9,501- 10,000	1	1
9,001- 9,500	.....	.....
8,501- 9,000	.....	.....
8,001- 8,500	.....	.....
7,501- 8,000	.....	.....
7,001- 7,500	.....	6
6,501- 7,000	.....	8
6,001- 6,500	.....	2
5,501- 6,000	.....	13
5,001- 5,500	.....	7
4,501- 5,000	1	33
4,001- 4,500	4	32
3,501- 4,000	16	57
3,001- 3,500	31	41
2,501- 3,000	25	46
2,001- 2,500	38	74
1,501- 2,000	93	106
1,001- 1,500	82	61
501- 1,000	80	97
Total	371	586
25 Percentile	1,077.75	1,405.74
Median	1,626.34	2,195.95
75 Percentile	2,305.92	3,627.19
Increase 25 Percentile	.....	327.99
Median	.....	569.61
75 Percentile	.....	1,321.27
Per cent of Increase 25 Percentile	.....	30.4
Median	.....	34.9
75 Percentile	.....	57.3

TABLE L—SALARY DISTRIBUTION MICHIGAN COLLEGE OF MINES

Salary group	1913–14	1914–15	1915–16	1916–17	1917–18	1918–19	1919–20	1920–21
4501–5000	1	1	1	1	1	1	1	1
4001–4500	.....	.....	.....	.....	.....	.....	.....	.....
3501–4000	.....	.....	.....	.....	.....	.....	.....	4
3001–3500	.....	.....	.....	.....	2	4	4	1
2501–3000	3	3	3	3	4	1	1	5
2001–2500	3	3	3	4	1	5	4	2
1501–2000	6	5	4	4	13	3	6	3
1001–1500	12	12	12	10	.....	1	3	1
501–1000	1	.....	1	2	.....	.....	.....	.....
Total	26	24	24	24	21	15	19	17
25 Percentile	1,229.17	1,250.00	1,208.33	1,200.00	1,701.92	1,958.33	1,645.83	2,062.50
Median	1,500.00	1,500.00	1,458.33	1,500.00	1,903.84	2,350.00	2,062.50	2,750.00
75 Percentile	2,083.33	2,166.67	2,166.67	2,250.00	2,718.75	3,156.25	3,031.25	3,593.25
Increase over 1913-14 25 Percentile	.....	20.83	−20.84	29.17	472.75	729.16	416.66	833.33
Median	.....	.....	−41.67	.....	403.84	850.00	562.50	1,250.00
75 Percentile	.....	83.67	83.67	166.67	635.42	1,072.92	947.92	1,510.42
Per cent Inc. over 1913-14 25 Percentile	.....	1.6	−1.6	2.4	38.4	59.3	33.8	67.8
Median	.....	.....	−2.8	.....	26.9	56.7	37.5	83.3
75 Percentile	.....	4.0	4.0	8.0	30.5	51.5	45.5	72.5

TABLE LI—PER CENT OF MEMBERSHIP BY COURSE OF STUDY OVER ACTUAL MEMBERSHIP

	Michigan	Central	Northern	Western	Average
Education	74.8	34.8	49.2	81.3	65.9
Health	83.0	47.2	49.2	63.5	65.9
Languages					
English	75.5	62.2	38.6	53.9	61.4
Foreign	20.9	5.3	6.2	17.2	14.9
Library Methods	.....	.....	33 6	18.8	10.5
Exact Sciences					
Mathematics	25.2	22.7	19.0	11.8	19.9
Physics	5.0	2.7	2.8	4.4	4.1
Chemistry	6.1	3.5	3.6	5.6	5.1
Agriculture	2.7	4.8	.....	.9	2.1
Botany	5.2	.....	.....	.....	2.0
Zoology	2.7	2.2	.....	.....	1.4
Nature Study	.....	3.3	5.4	2.1	2.0
Biology	.....	.....	1.2	4.0	1.4
Qual. Anal	.....	1.8	.....	1.3	.7
Heredity	.....	1.2	.....	.....	.2
Elem. Science	.....	.....	5.8	.....	.8
Physiology	1.8	3.7	10.0	11.0	6.1
Astronomy	1.2	.....	.....	.....	.5
Social Science	33.2	30.8	23.4	62.3	39.9
Vocational					
Commercial	.....	9.3	7.0	20.7	8.7
Home Economics	5.1	4.0	4.8	10.5	6.5
Mechanic Arts	3.5	3.2	5.8	11.8	6.2
Fine Arts					
Music	20.9	27.8	63.2	10.7	25.3
Art	18.2	16.8	18.0	24.9	19.9
Total	385.2	287.3	346.6	416.7	371.5

TABLE LII—MEMBERSHIP BY COURSE OF STUDY

	Michigan	Central	Northern	Western	Total
Education	972	209	246	813	2,240
Health	1,079	283	245	635	2,242
Languages					
English	982	373	193	539	2,087
Foreign	272	32	31	172	507
Library Methods	.....	.....	168	188	356
Exact Sciences					
Mathematics	328	136	95	118	677
Physics	65	16	14	44	139
Chemistry	79	21	18	56	174
Agriculture	35	29	.....	9	73
Botany	68	.....	.....	.....	68
Zoology	35	13	.....	.....	48
Nature Study	.....	20	27	21	68
Biology	.....	.....	6	40	46
Qual. Anal.	.....	11	.....	13	24
Heredity	.....	7	.....	.....	7
Elem. Science	.....	.....	29	.....	29
Physiology	24	22	50	110	206
Astronomy	16	.....	.....	.....	16
Social Sciences	431	185	117	623	1,356
Vocational					
Commercial	.....	56	35	207	298
Home Economics	67	24	24	105	220
Mechanic Arts	46	19	29	118	212
Fine Arts					
Music	272	167	316	107	862
Art	237	101	90	249	677
Total	5,008	1,724	1,733	4,167	12,632

TABLE LIII—RELIGIOUS AFFILIATION OF STUDENTS

Religious denomination	Affiliation	Attend local church	Active	Y. M. C. A.	Y. W. C. A.	Stud. men	Rel. Org. women	Per cent affiliation
Methodist	907	909	426	44	161	19	121	31.6
Presbyterian	388	487	174	11	101	3	24	13.4
Catholic	357	350	168	1	9	34	181	12.4
Congregational	245	191	73	5	33	.....	13	8.5
Baptist	169	150	75	5	23	3	12	5.9
Episcopal	124	121	62	2	14	2	14	4.3
Lutheran	189	136	64	1	8	8	24	6.6
Christian Science	31	41	4	.....	1	.....	2	1.1
Christian	16	12	9	.....	.....	1	.....	.6
Christian Reformed	12	1	.....	.....	1	.....	.....	.4
Reformed	39	35	22	4	5	.....	1	1.4
Church of Christ	40	41	30	5	12	1	1	1.4
Evangelical	27	14	8	1	2	1	.....	.9
United Brethren	11	.....	.....	2	2	.....	.....	.4
Church of God	3	.....	.....	.....	.....	.....	.....	.1
Universalist	3	.....	.....	.....	.....	.....	.....	.1
Jewish	10	3	2	.....	.....	.....	1	.3
Disciple	7	1	.....	1	.....	1	.....	.2
Latter Day Saints	1	.....	.....	.....	.....	.....	.....	.03
Seventh Day Adventists	2	2	1	.....	1	.....	1	.07
Unitarian	.....	1	.....	.....	.....	.....	.....	.....
Mennonite	1	.....	.....	.....	.....	.....	.....	.03
Moravian	1	1	1	.....	.....	.....	.....	.03
Friends	1	.....	.....	.....	.....	.....	.....	.03
Apostle	2	1	.....	.....	.....	.....	.....	.07
Greek Orthodox	1	.....	.....	.....	.....	.....	.....	.03
No church	283	.....	.....	1	7	.....	1	9.9
Unclassified	8	.....	.....	.....	.....	.....	.....	.2
Total	2,878	2,497	.....	.....	.....	63	406	100.0
No information	88							
Total	2,966							

TABLE LIV—WEEKLY RENTAL OF ROOMS—NUMBER IN ROOMS

Cost per week	Single room			Suite					Room	Board	Total	Per cent
	1	2	3	1	2	3	4	5	1	2		
$1.00	6	16	1			1					24	1.0
1.25	5	15	1								21	.8
1.50	18	79			5						102	4.0
1.75	8	53			5		1				67	2.7
2.00	72	311	2	3	51	15	1				455	18.0
2.25	11	92			33	5	5	1			147	5.8
2.50	80	475	1	4	155	44	4	1			764	30.0
2.75	5	56	1		20	8	1				91	3.6
3.00	111	137		1	43	37	1				330	13.1
3.25	5	5		1	3	2					16	.6
3.50	30	26			9	1					66	2.6
3.75					11						11	.4
4.00	59	27		4	17						107	4.2
4.25												
4.50	4	4			1						9	.4
4.75						1			3		4	.2
5.00	10	9		7	13		1		2	3	45	1.8
5.25	1										1	.05
5.50				1							1	.05
5.75												
6.00	3	8		5	2	2			1	4	25	1.0
6.25												
6.50	2			4	5				2	4	17	.7
6.75												
7.00	3				4	1			1		9	.4
7.50												
8.00												
8.50	1			1	5						7	.3
Total	434	1,313	6	31	382	117	14	2	9	11	2,319	
Not stated	52	21		7	6					3	89	3.5
Work	41	12		4	3				58	3	121	4.8
Total	527	1,346	6	42	391	117	14	2	67	17	2,529	100.

Cases tested.....2,529
Living at home..... 372
No information..... 65

2,966

TABLE LV—SOCIAL SURVEY OF STATE NORMAL SCHOOLS—CLOTHES EXPENSES

$60	$75	$90	$105	$120	$135	$150	$165	$180	$195	$210	$225	$240	$255	$270	$285	$300 and over	Total	No information	Total
148	124	88	112	22	32	134	15	16	27	69	32	10	54	29	18	39	969	262	1,231
15.2	12.8	9.1	11.6	2.3	3.3	13.7	1.6	1.7	2.8	7.1	3.3	1.0	5.6	3.0	1.9	4.0	100.0		
																		Median	$113.18

TABLE LVI—SOCIAL SURVEY OF STATE NORMAL SCHOOLS—BOARD EXPENSES

$165	$180	$195	$210	$225	$240	$255	$270	$285 and over	Total	No information	Total	Median
26	280	84	158	70	127	24	62	24	855	69	924	198.51
3.0	32.7	9.8	18.5	8.2	14.9	2.8	7.3	2.8	100.0			

TABLE LVII—RECREATION

Expenditures in Dollars	$0	$6	$12	$18	$24	$30	$36	$42	$48	$54	$60	$66	$72	$78	$84	$90	$96	$102	$108	$114	$120	Total	No Informatinn	Total	Median
Total Number	34	148	215	153	140	100	32	31	121	10	28	7	27	10	3	17	18	40	27	14	14	1,189	263	1,452	$19.89
Per cent	2.9	12.4	18.0	12.8	11.8	8.4	2.7	2.6	10.2	.8	2.4	.6	2.3	.8	.3	1.4	1.5	3.4	2.3	1.2	1.2	100.0			

TABLE LVIII—MEDICAL

Expenditures in Dollars	$0	$3	$6	$9	$12	$15	$18	$21	$24	$27	$30	$33	$36	$39	$42	$45	$48	$51	$54	$57	$60 & over	Total	No Information	Total	Median
Total Number	379	119	108	111	21	57	5	28	52	4	34	6	7	4	3	44	34	33	31	19	37	1,136	333	1,469	$4.94
Per cent	33.2	10.4	9.5	9.8	1.9	5.0	.4	2.5	4.6	.4	3.0	.5	.6	.4	.3	3.9	3.0	2.9	2.7	1.7	3.3	100.0			

TABLE LIX—TRAVELING

Expenditures in Dollars	$0	$6	$12	$18	$24	$30	$36	$42	$48	$54	$60	$66	$72	$78	$84	$90	$96	$102	$108	$114	$120	Total	No Information	Total	Median
Total Number	114	46	111	131	146	132	95	100	137	26	64	8	38	21	17	10	19	20	29	10	8	1,282	163	1,445	$28.23
Per cent	8.9	3.6	8.7	10.2	11.4	10.3	7.4	7.8	10.6	2.0	5.0	.6	3.0	1.6	1.3	.8	1.5	1.6	2.3	.8	.6	100.0			

TABLE LX—RANGE OF BOARD AND ROOM PRICES

College	Range of board prices	Range of room prices
Michigan State	$4 to $8	$1 to $8.00
Western State	$4 to $8	$1 to $6.50
Central Normal	$4 to $8	$1 to $7.00
Northern State	$4 to $8	$1 to $6.00

TABLE LXI—SUGGESTED DISTRIBUTION OF CLASSES BY SIZE

	25 Percentile	Median	75 Percentile
Education	20	30	35
Health	30	60	90
Languages	20	25	30
Exact Sciences	15	25	30
Social Sciences	20	30	40
Vocational	15	20	25
Fine Arts	15	25	35
Total	20	30	35

TABLE LXII—RESIGNATIONS OF DETROIT TEACHERS BY YEARS

Year	Resignations			Total No. of teachers			Per cent of resignations		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
1914–15	8	111	119	239	1,896	1,235	3.3	5.9	5.6
1915–16	9	133	142	293	2,103	2,396	3.1	6.3	5.9
1916–17	12	148	160	338	2,312	2,650	3.5	6.4	6.0
1917–18	36	135	171	347	2,671	3,018	10.3	5.0	5.7
1918–19	19	125	144	433	3,130	3,563	4.4	4.0	4.1
1919–20	50	338	388	498	3,252	3,750	10.0	10.4	10.3
1920–21	23	174	197	540	3,543	4,083	4.3	4.9	4.8

TABLE LXIII—INCREASE IN TOTAL POPULATION STATE OF MICHIGAN

Year	Total population	Increase	Per cent increase
1870	1,184,059	.....	.....
1880	1,636,937	452,878	38.3
1890	2,093,890	909,831	76.8
1900	2,420,982	1,236,923	104.5
1910	2,810,173	1,626,114	137.3
1920	3,634,819	2,450,760	206.9

TABLE LXIV—SCHOOL POPULATION AND SCHOOL ATTENDANCE PROPORTION TO TOTAL POPULATION

Year	Total population	School population	Attending school	Per cent school pop. of total pop.	Per cent school pop. attending school
1870	1,184,059	384,554[1]	278,686[1]	32.5	72.5
1880	1,636,937	506,221	381,410	30.9	75.3
1890	2,093,890	703,684	480,743	33.6	68.3
1900	2,420,982	790,275	539,739	32.6	68.3
1910	2,810,173	854,710	558,126	30.4	65.3
1920	3,634,819	1,048,390	753,326	28.8	71.9

[1]Includes ages of 5 to 18 only.

TABLE LXV—INCREASE IN SCHOOL POPULATION

Year	School population	Increase	Per cent increase
1870	384,554	.....	.....
1880	506,221	121,667	31.6
1890	703,684	319,130	83.0
1900	790,275	405,721	105.5
1910	854,710	470,156	122.3
1920	1,048,390	663,836	172.6

TABLE LXVI—INCREASE IN SCHOOL ATTENDANCE

Year	Number attending school	Increase	Per cent
1870	278,686	.....	.....
1880	381,410	102,724	36.9
1890	480,743	202,057	72.5
1900	539,739	261,053	93.7
1910	558,126	279,440	100.3
1920	753,326	474,640	170.3

TABLE LXVII—PUPIL-TEACHER RATIO

Year	Number public school teachers	Public school attendance	Number pupils per teacher
1911-12	18,824	555,137	29.5
1912-13	21,090	572,201	27.1
1913-14	21,401	581,351	27.2
1914-15	22,050	598,159	27.1
1915-16	22,710	620,861	27.3
1916-17	23,969	635,020	26.5
1917-18	25,442	655,941	25.8
1918-19	25,708	655,941	25.5
1919-20	26,840	662,521	24.7
1920-21[1]	36,556	863,892	25.0

[1]Estimated.

TABLE LXVIII—CLASSIFICATION OF TEACHERS BY SEX

Year	Teachers			Per cent	
	Men	Women	Total	Men	Women
1911–12	2,708	16,116	18,824	14.4	85.6
1912–13	3,387	17,703	21,090	16.1	83.9
1913–14	3,276	18,125	21,401	15.3	84.7
1914–15	3,406	18,644	22,050	15.5	84.5
1915–16	3,558	19,152	22,710	15.7	84.3
1916–17	3,745	20,224	23,969	15.6	84.4
1917–18	3,772	21,670	25,442	14.8	85.2
1918–19	3,122	22,586	25,708	12.1	87.9
1919–20	3,635	23,205	26,840	13.5	86.5

TABLE LXIX—STATE POPULATION AND SCHOOL ATTENDANCE

	1 The State—School population				2 The State—Attending school			
Age period	1910	1920	Increase	% Inc.	1910	1920	Increase	% Inc.
5–20 years inc.	854,710	1,048,390	193,680	22.66	558,126	710,341	152,215	27.27
Male	432,406	531,150	98,744	22.84	280,362	357,005	76,643	27.33
Female	422,304	517,240	94,936	22.48	277,764	353,336	75,572	27.21
5 and 6 years	115,018	154,646	39,628	34.45	57,821	84,176	26,355	45.58
7 to 13 years	366,556	477,976	111,420	30.39	345,005	453,652	108,647	31.49
14 and 15 years	101,488	119,811	18,323	18.05	85,713	103,747	18,034	21.04
16 and 17 years	108,173	119,423	11,250	10.40	47,279	47,055	−224	−.47
18 to 20 years	163,475	176,534	13,059	7.99	22,308	21,711	−597	−2.68
Urban population								
5 and 6 years	49,576	89,073	39,497	79.67	25,643	50,389	24,746	96.50
7 to 13 years	155,368	258,639	103,271	66.47	145,545	246,405	100,860	69.29
14 to 20 years	177,191	246,034	68,843	38.85	63,240	94,118	30,878	48.83
Rural population								
5 and 6 years	65,442	65,573	131	.20	32,178	33,787	1,609	5.00
7 to 13 years	211,188	219,337	8,149	3.86	199,460	207,247	7,787	3.90
14 to 20 years	195,945	169,734	−26,211	−13.38	92,060	78,395	−13,665	−14.84

TABLE LXX—RECITATION PERIODS PER WEEK

Periods per wk.	Michigan	Western	Central	Northern	Total	Per cent
1	1	5	2	1	9	1.7
2	1	5	....	6	12	2.3
3	...	42	....	..	42	8.0
4	199	113	68	56	436	82.7
5	.....	14	14	..	28	5.3
Total	201	179	84	63	527	100.0
	38.2	33.9	15.9	12.	100.	

TABLE LXXI—APPROPRIATIONS AND EXPENDITURES MICHIGAN STATE NORMAL COLLEGE

Year	Maintenance appropriations	Increase	Per cent of increase	Maintenance expenditures	Increase	Per cent of increase
1910–11	$145,000.00	.....	....	$170,104.85	.....	....
1911–12	165,000.00	20,000.00	13.8	188,546.24	18,441.39	10.8
1912–13	165,000.00	.....	....	205,322.86	16,766.62	8.9
1913–14	185,000.00	20,0000.0	12.1	218,048.25	12,725.39	6.2
1914–15	185,000.00	.....	....	229,024.05	10,975.80	5.0
1915–16	200,000.00	15,000.00	8.1	235,673.63	6,649.58	2.9
1916–17	200,000.00	.....	....	239,644.25	3,970.62	1.7
1917–18	235,000.00	35,000.00	17.5	280,099.64	40,455.39	16.9
1918–19	228,000.00	−7,000.00	−2.9	263,127.35	−16,972.29	6.0
1919–20	301,731.41	73,731.41	32.3	329,252.42	66,125.07	25.1
1920–21	301,581.41	−150.00	−.05	426,256.78	97,004.36	29.5

TABLE LXXII—APPROPRIATIONS AND EXPENDITURES WESTERN STATE NORMAL SCHOOL

Year	Maintenance appropriations	Increase	Per cent of increase	Maintenance expenditures	Increase	Per cent of increase
1911–12	$85,000.00	.....	....	$91,441.00	.....	....
1912–13	85,000.00	.....	....	98,664.75	$7,223.75	7.9
1913–14	110,000.00	$25,000.00	29.4	122,391.79	23,727.04	24.0
1914–15	110,000.00	.....	....	125,584.40	3,192.61	2.6
1915–16	130,000.00	20,000.00	18.2	147,502.25	21,917.85	17.4
1916–17	135,000.00	5,000.00	3.8	154,956.34	7,454.09	5.1
1917–18	170,000.00	35,000.00	25.9	189,293.96	34,337.62	22.2
1918–19	170,000.00	.....	....	196,072.12	6,778.16	3.6
1919–20	245,500.00	75,500.00	44.4	245,500.00	49,427.88	25.2
1920–21	255,500.00	10,000.00	4.1	255,500.00	10,000.00	4.1

TABLE LXXIII—APPROPRIATIONS AND EXPENDITURES CENTRAL MICHIGAN NORMAL SCHOOL

Year	Maintenance appropriations	Increase	Per cent of increase	Maintenance expenditures	Increase	Per cent of increase
1910–11	$75,000.00	.....	....	$80,271.15	.....	....
1911–12	80,000.00	$5,000.00	6.6	85,566.17	$5,295.02	6.6
1912–13	80,000.00	.....	....	88,145,61	2,579.44	3.0
1913–14	90,000.00	10,000.00	12.5	97,553.29	9,407.68	10.7
1914–15	90,000.00	.....	....	97,513.98	39.31	−.04
1915–16	95,000.00	5,000.00	5.5	103,262.10	5,748.12	5.9
1916–17	95,000.00	.....	....	105,093.09	1,830.99	1.8
1917–18	103,000.00	8,000.00	8.4	109,880.29	4,787.20	4.5
1918–19	103,000.00	.....	....	123,003.14	13,122.85	11.9
1919–20	132,680.00	29,680.00	28.8	130,601.12	7,597.98	6.2
1920–21	167,463.00	34,783.00	26.2	175,361.18	44,760.06	34.3

TABLE LXXIV—APPROPRIATIONS AND EXPENDITURES NORTHERN STATE NORMAL SCHOOL

Year	Maintenance appropriations	Increase	Per cent of increase	Maintenance expenditures	Increase	Per cent of increase
1910–11	$50,000.00	.....	....	$52,882.97	.....	....
1911–12	55,000.00	$5,000.00	10.0	57,056.03	$4,173.06	7.9
1912–13	55,000.00	.....	....	58,366.49	1,310.46	2.3
1913–14	56,430.00	1,430.00	2.6	60,801.20	2,434.71	4.2
1914–15	56,430.00	.....	....	61,986.30	1,185.10	1.9
1915–16	64,500.00	8,070.00	14.3	72,133.94	10,147.64	16.4
1916–17	64,500.00	.....	....	72,385.37	251.43	.3
1917–18	84,000.00	19,500.00	30.2	89,064.71	16,679.34	23.0
1918–19	84,000.00	.....	....	89,721.59	656.88	.7
1919–20	109,180.87	25,180.87	29.9	107,747.14	18,025.55	20.1
1920–21	109,180.87	.....	....	138,163.25	30,416.11	28.2

TABLE LXXV—GRADUATES—DETROIT TEACHERS COLLEGE

Year	Number graduates	Increase over 1910	Per cent increase over 1910
1910	50	....	.....
1911	52	2	4.0
1912	69	19	38.0
1913	70	20	40.0
1914	56	6	12.0
1915	31	-19	-38.0
1916	53	3	6.0
1917	64	14	28.0
1918	176	126	252.0
1919	130	80	160.0
1920	144	94	188.0
1921	191	141	282.0

TABLE LXXVI—TEACHER GRADUATES MICHIGAN AGRICULTURAL COLLEGE BY YEARS

Year	Women	Men	Total	Increase over 1910	Per cent of increase
1910	17	9	27	...	....
1911	24	9	33	6	22.2
1912	29	42	71	44	163.0
1913	32	50	82	55	203.7
1914	50	63	113	86	318.6
1915	42	93	135	108	400.0
1916	60	98	158	131	485.2
1917	53	116	169	142	525.9
1918	55	44	99	72	266.7
1919	59	20	79	52	192.6
1920	65	61	126	99	366.7
1921	42	45	87	60	222.3

TABLE LXXVII—UNIVERSITY OF MICHIGAN GRADUATES BY YEARS

Year	Men	Women	Total	Increase over 1911	Per cent of increase
1910	20	107	127	...	....
1911	33	112	145	18	14.2
1912	23	114	137	10	7.9
1913	30	112	142	15	11.8
1914	37	131	168	41	32.3
1915	56	165	221	94	74.0
1916	79	147	226	99	77.9
1917	58	182	240	113	89.0
1918	36	202	238	111	87.4
1919	18	162	180	53	41.7
1920	29	160	189	62	48.9
1921	...	...	200	...	....
Total	419	1,594	2,213		

TABLE LXXVIII—GRADUATES—STATE NORMAL SCHOOLS

	1 yr.	2 yr.	3 yr.	4 yr.	Non H. S. Grads.	Total	Increase over 1911	Per cent increase over 1911
1910–11[1]	104	634	32	4	56	830	...	....
1911–12	247	868	32	7	103	1,257	427	51.4
1912–13	241	1,011	35	11	94	1,392	562	67.8
1913–14	208	1,094	38	15	62	1,417	587	70.7
1914–15	206	1,151	62	16	81	1,516	686	82.7
1915–16	197	1,237	89	15	65	1,603	773	93.1
1916–17	193	1,437	85	18	67	1,800	970	116.9
1917–18	176	1,386	82	15	50	1,709	879	105.9
1918–19	127	1,100	55	33	34	1,349	519	62.5
1919–20	150	1,033	25	47	20	1,275	445	53.6
1920–21	170	993	..	66	23	1,252	422	50.9
Total	2,019	11,944	535	247	655	15,400		
% Distribution	13.1	77.5	3.5	1.6	4.3	100		

[1]1910–11 does not include Western Normal.

TABLE LXXIX—PROPORTION OF TEACHERS BY INSTITUTION

Year	University of Michigan	State Normal Schools	Detroit Teachers College	Michigan Agricultural College
1910–11	13.7	78.3	4.9	3.1
1911–12	8.9	82.0	4.5	4.6
1912–13	8.4	82.5	4.2	4.9
1913–14	9.6	80.8	3.2	6.4
1914–15	11.6	79.7	1.6	7.1
1915–16	11.1	78.5	2.6	7.8
1916–17	10.6	79.2	2.8	7.4
1917–18	10.7	76.9	7.9	4.5
1918–19	10.4	77.5	7.5	4.6
1919–20	10.9	73.5	8.3	7.3
1920–21	11.6	72.4	11.0	5.0
Total	10.6	78.2	5.3	5.9
Estimated 1930	12.0	72.0	11.0	5.0

TABLE LXXX—DISTRIBUTION OF STUDENTS FROM UPPER AND LOWER PENINSULAS IN THE FOUR STATE NORMALS

Year	Peninsula	Michigan	Western	Central	Northern	Total	Michigan	Western	Central	Northern	Total
1916-17	Upper	160	35	6	485	686	23.3	5.1	.9	70.7	100
	Lower	1,536	847	496	7	2,886	53.2	29.4	17.2	.2	100
1917-18	Upper	123	21	3	369	516	23.8	4.1	.6	71.5	100
	Lower	1,135	708	333	3	2,179	52.1	32.5	15.3	.1	100
1918-19	Upper	75	47	7	388	517	14.5	9.1	1.4	75.0	100
	Lower	874	909	543	7	2,333	37.5	38.9	23.3	.3	100
1919-20	Upper	83	31	3	315	432	19.2	7.2	.7	72.9	100
	Lower	909	746	418	3	2,076	43.9	35.9	20.1	.1	100
1920-21	Upper	61	57	4	363	485	12.6	11.8	.8	74.8	100
	Lower	1,004	938	483	3	2,428	41.4	38.6	19.9	.1	100
1921-22	Upper	75	55	4	479	613	12.2	9.0	.7	78.1	100
	Lower	1,373	1,211	628	10	3,222	42.6	37.6	19.5	.3	100
Total	Upper	577	246	27	2,399	3,249	17.8	7.6	.8	73.8	100
	Lower	6,831	5,359	2,901	33	15,124	45.2	35.4	19.2	.2	100
Summer 1921	Upper	39	16	7	974	1,036	3.8	1.5	.7	94.0	100
	Lower	1,886	1,530	1,289	94	4,799	39.2	31.9	26.9	2.0	100

TABLE LXXXI—SOCIAL SURVEY OF STATE NORMAL SCHOOLS—BOOK COSTS PER YEAR

$6	$12	$18	$24	$30	$36 and over	Total	No Information	Total	Median
120 8.7	227 16.4	264 19.0	242 17.4	278 20.0	257 18.5	1,388 100.	57	1,445	$20.06

TABLE LXXXII—ROOM EXPENSES PER YEAR

$45	$60	$75	$90	$105	$120	$135	150 and over	Total	No Information	Total	Median
87 8.1	134 12.5	245 22.9	276 25.8	193 18.0	54 5.0	39 3.6	44 4.1	1,072 100	56	1,128	$78.80

TABLE LXXXIII—INCIDENTAL EXPENSES PER YEAR

0	1.50	3	4.50	6	7.50	9	10.50	12	13.50	15	16.50	18	19.50	21	22.50	24	25.50	27	28.50	30	31.50	33	34.50	36	37.50	39	40.50	42	43.50	45	46.50	48 & over	Total
	13 1.3	16 1.6	63 6.1	25 2.5	6 .6	47 4.6	94 9.1	11 1.1	14 1.4	134 13.0	13 1.3	19 1.9	59 5.8	18 1.8	11 1.1	30 2.9	93 9.0	7 .7	6 .6	74 7.3	8 .8	5 .5	12 1.2	33 3.2	15 1.5	43 4.2	33 3.2	23 2.3	21 2.1	19 1.9	18 1.8	37 3.6	1,020 100

No information..... 428
Total..... 1,448
Median.....$19.40

TABLE LXXXIV—CENTRAL MICHIGAN NORMAL SCHOOL—STATEMENT OF FEES

Description	Amount	Annual, quarterly	Total revenue 1920–21	Disbursed by State or at college	By whom authorized	Purpose for which expended
Athletic and Lecture[1]	$2.00 to $2.50	Quarterly	$5,425.00	College	State Board of Education	Athletic and lectures
Correspondence	$7.50	For each course	$2,385.00	College	State Board of Education	Paid to individual instructors
Diploma and Certificate[2]	$2.00 to $3.00	At graduation	$584.00	State	State Board of Education	Turned into general fund of state
Extension	$7.50	For each course	$1,565.00	College	State Board of Education	Paid to individual instructors
Laboratory[3]	$0.50 to $1.00	Quarterly	$511.25	State	State Board of Education	Turned into general fund of state
Locker	$0.25	Quarterly	$303.00	College	State Board of Education	Athletics
Tuition[4]	$3.50 to $5.00	For each course	$9,113.00	State	State Board of Education	Turned into general fund of state

[1] Fall, winter and spring—$2.50 per term
Summer..... 2.00 per term

[2] Life Certificates—$3.00
Rural and Limited Certificates—$2.00

[3] Chemistry—Per term $1.00
Physics " " .50
Botany " " .50
Zoology " " .50
Manual Arts " " 1.00
Industrial Arts " 1.00

[4] Fall, winter and spring—$5.00 per term
Summer..... 3.00 " "

TABLE LXXXV—WESTERN STATE NORMAL SCHOOL—STATEMENT OF FEES

Description	Amount	Annual, quarterly	Total revenue 1920–21	Disbursed by state or at college	Purpose for which expended
Tuition	$10.00	Quarterly	$ 430.00	State	To state funds
Tuition[1]	6.00	"	6,198.00[1]	"	" " "
Tuition	5.00	"	9,605.00	"	" " "
Tuition	4.00	"	4,048.00	"	" " "
Tuition	3.00	"	54.00	"	" " "
Tuition	2.50	"	77.50	"	" " "
Diploma	3.00	Annual	858.00	"	" " "
Diploma	2.00	"	176.00	"	" " "
Laboratory	.50 1.00 2.00 3.00	Quarterly	1,985.00	"	" " "
Athletics[2]		Quarterly	7,497.00	College	Ath. expenses
Extension	7.50 10.00	Semi Annually	15,165.00	"	Extension work

1

$1,093.00 was deducted from this amount in the winter term, 1921, and deposited in our Athletic Fees Fund with the following explanation: For the Fall Term, 1920, we remitted tuition fees at the rate of $6.00 instead of $5.00, as recommended by the State Board of Education in October, 1920.

[2] An athletic fee of $2.50 is collected from each student in the Fall, Winter and Spring Terms. In the summer term the student athletic fee is $2.00.

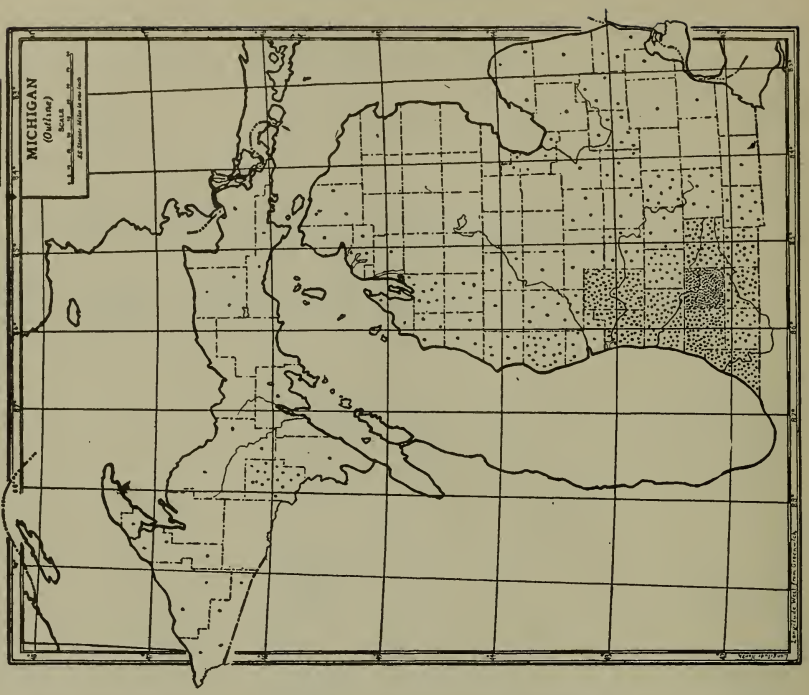
TABLE LXXXVI—MICHIGAN STATE NORMAL COLLEGE—STATEMENT OF FEES

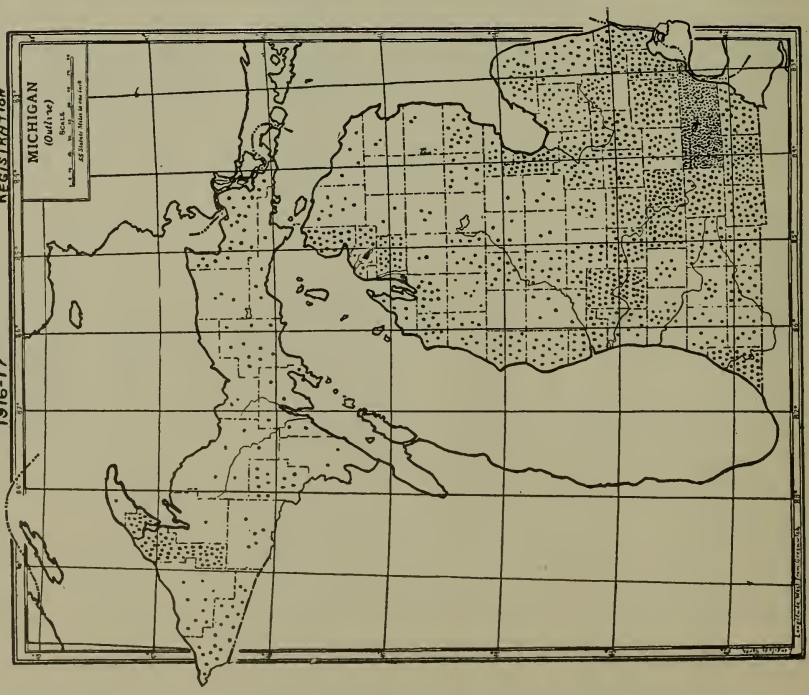
Description	Amount	Annual, quarterly	Total revenue, 1920–21	Disbursed by state or at college	By whom authorized	Purpose for expended for which
Tuition	$3–5 $5–10[1]	Quarterly	$22,912.88	By state	State Board of Education	Goes to funds of state
Diploma fees	$1.00 to $3.00	At graduation	1,961.00	" "	" "	" "
Laboratory fees	$0.25 to $2.00	Quarterly	1,064.25	" "	" "	" "
General fees	$1.00 to $3.00[1]	Quarterly	10,169.50	" "	" "	Athletics, lectures, music, etc.
Extension	$7.50 to $10.00	Quarterly	5,247.50	" "	" "	Pay instructors
Correspondence	$7.50 to $10.00	Quarterly	3,630.00	" "	" "	" "

1—Summer term.

TABLE LXXXVII—NORTHERN STATE NORMAL SCHOOL—STATEMENT OF FEES

Description	Amount	Annual, quarterly per term	Total revenue 1920–21	Disbursed by state or at college	By whom authorized	Purpose for which expended
Tuition:				Fees Turned Back to State		
Summer term	71	$4.00	$284.00			
Summer term	927	3.00	2,781.00			
Regular term (resident)	937	5.00	4,685.00			
Absentia	10	7.00	70.00			
Absentia	102	5.00	510.00			
Diploma:						
A. B.	2	3.00	6.00			
Life	139	3.00	417.00			
Graded school	39	2.00	78.00			
Rural	4	2.00	8.00			
Laboratory:						
Chemistry	70	1.00	70.00			
Physics	39	.50	19.50			
Cooking	6	1.00	6.00			
Cooking	58	2.00	116.00			
Sewing	13	1.00	13.00			
Sewing	30	2.00	60.00			
Woodwork	3	1.00	3.00			
Woodwork	64	2.00	128.00			
Drafting	1	.50	.50			
Drafting	74	1.00	74.00			
Total			$9,329.00			
Contingent:						General student entertainment and advancement: athletics; school paper; lectures and entertainments for students.
Summer	71	$1.00	$71.00	Disbursed at college	James H. Kaye, Pres.	
Summer	927	2.00	1,854.00			
Regular term	933	2.50	2,332.50			
Absentia	102	2.50	255.00			
Total			$4,512.50			
Expended during same period			2,654.34			


MICHIGAN
(Outline)
WESTERN STATE NORMAL
KALAMAZOO
1916--1917
Registration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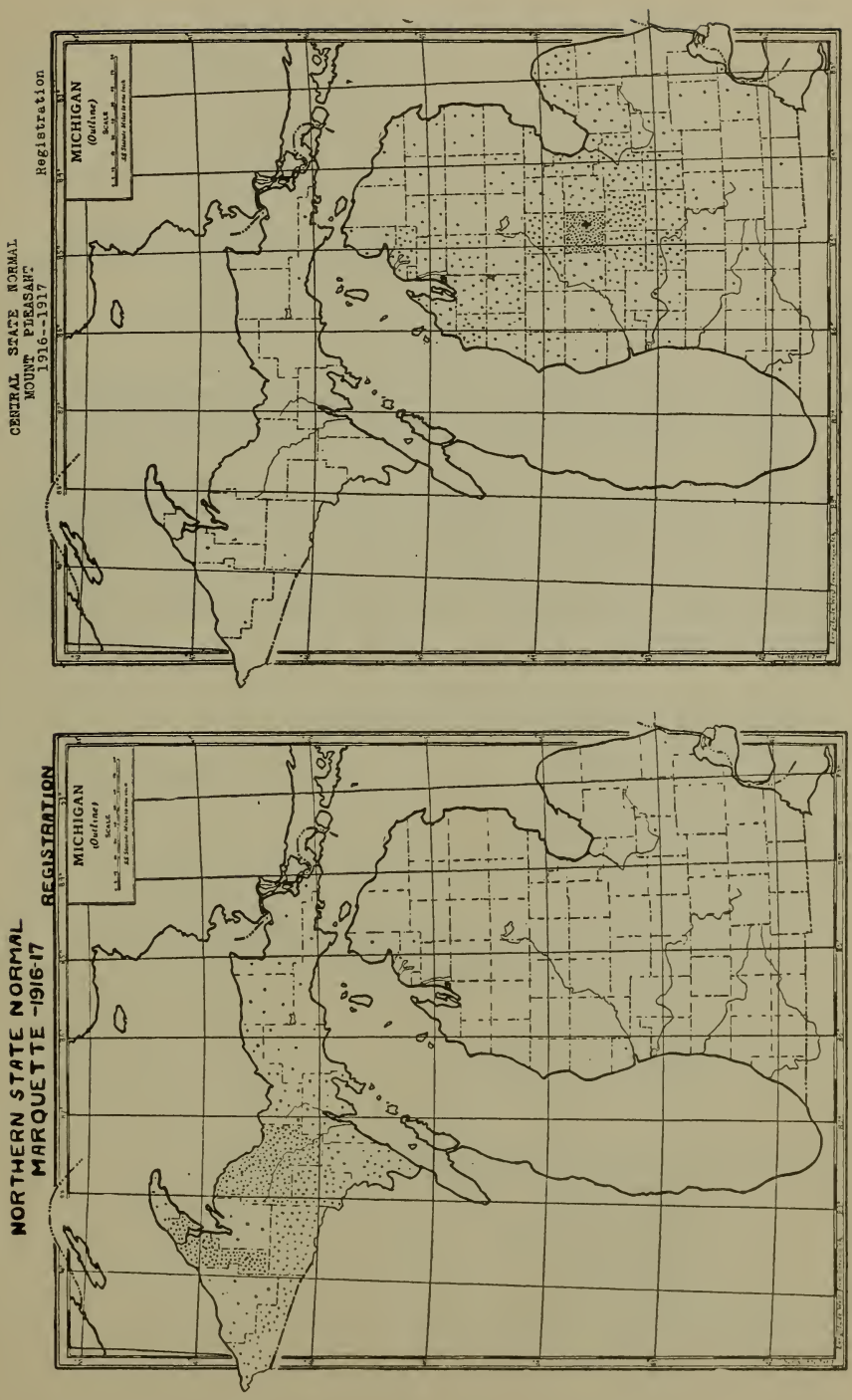
1916-17
REGISTRATION


NORTHERN STATE NORMAL
MARQUETTE -1916-17
REGISTRATION
MICHIGAN
(Outline)
CENTRAL STATE NORMAL
MOUNT PLEASANT
1916-1917
Registration
MICHIGAN
(Outline)

Purpose and Limitations of Survey

In making a complete survey of any educational institution the problem should be approached in the following way:[1]

Part I. A social survey to determine the need the institution is to fill, and the probable rate of development of that need.

Part II. A pupil survey to determine as completely as possible the material to be acted upon.

Part III. An organization survey to determine the adequacy of planning.

Part IV. A building and ground survey to determine how adequately the buildings are adjusted to functions.

Part V. An operation survey to determine the efficiency of operation.

Each of these surveys must aim to accomplish three things:

1. Secure the facts and formulate the ideal or ultimate in terms of these facts.
2. Determine what is actually being done and appraise it in terms of the ideal.
3. Suggest the changes necessary to bring about a closer approximation to the ideal.

The primary purpose of the present survey of the Michigan state normal schools (undertaken at the request of the State Board of Education) is to establish uniform accounting, uniform organization, uniform budget procedure and to determine the needs of the state for teacher training for a period of years so that a definite and continuing policy might be developed. It is therefore necessary to pass over several of the other divisions lightly. The specific program required to secure these results was as follows:

Part I

A Definition of function and scope of institution.
  a Sources of Students.
    A study of enrollment in relation to the place from which students come for a period of five years.
  b Destination of Students.
    A study of placements of students for a period of five years.

B Possibilities of growth.
  a A study of enrollments for the preceding ten year period.
  b A study of graduates for the preceding ten year period.
  c The probable rate of growth based upon
    1. Past enrollment.
    2. Salary conditions.
    3. Demand for teachers.
    4. Possibilities of promotion.

Part II

A A study of housing and living conditions with relation to
    1. Physical status.
    2. Mental status.
    3. Educational status.
    4. Social status.
    5. Spiritual status.

[1]—S. A. Courtis Plan for an Educational Survey.

Part III

A Administration.

a Definition of all departments and offices and functions of each showing how provision is made for:

1. Administration.
2. Instruction.
3. Student accounting.
4. Cost accounting, records and statistics.
5. Operation of school plant.
6. Maintenance of school plant.
7. Co-operation with outside agencies.
8. Research.

Part IV

A building and ground survey to show how adequately buildings are used and how well they are adjusted to the educational program.

The requirements of these schools for additional buildings and grounds.

Supplement

At the request of the State Board of Education a second study of plant use and teacher load was made at three of the normal schools in November, 1922, to determine whether the large increases in student membership at these state schools would call for an acceleration of the building program as recommended in Part I.

Michigan State Normal College

Use of College Plant

The November membership at Michigan State Normal College was 1966 or 439, 28.7%, greater than last year. This is the largest membership in the history of the college.

A study of the room use[1] by periods shows an increase from 34.2% to 41.9%. These data are shown in Table 1:

TABLE 1—ROOM USE BY PERIODS (MICHIGAN STATE)

Building	Total periods	Periods used	Per cent use 1922	Per cent use 1921
Administration	660	210	31.8	22.0
Main	1,232	675	54.8	43.2
Science	924	228	24.7	23.5
Pease Auditorium	220	147	66.8	64.4
Gymnasium	264	123	46.6	34.9
Total Normal Plant	3,300	1,383	41.9	34.2

The 1921 use of the college plant on the basis of attendance was 18.7%. The 1922 use was 27.4%, an increase of 8.7%. This comparison is shown in Table 2.

TABLE 2—BUILDING USE ON THE BASIS OF ATTENDANCE (MICHIGAN STATE)

Building	Standard capacity for 1 week	Attendance for 1 week	Per cent use of standard capacity	Per cent use Oct. 1921
Administration	24,552	4,586	18.7	11.1
Main	58,784	22,311	38.0	27.1
Science	32,912	3,995	12.1	10.7
Pease Auditorium	4,268	1,807	42.3	32.2
Gymnasium	19,316	5,690	29.5	13.7
Total Normal Plant	139,832	38,389	27.4	18.7

[1]—These studies correspond to the 1921 studies in Part II, Chapter VIII

Table 3 shows the use of the college plant by hourly periods for one week. The distribution of classes by periods is more even than last year with a very definite increase in the late as well as in the early periods.

TABLE 3—USE OF BUILDINGS BY PERIODS (MICHIGAN STATE)

IN NUMBERS

Building	Total Stand. Cap. for one week	Stand. Cap. for one a. m. hr. thru 6 days	Stand. Cap. for one p. m. hr. thru 5 days	Numbers by Periods								Total a. m. attend-ance	Total p. m. attend-ance	Total attend-ance
				8–9	9–10	10–11	11–12	1–2	2–3	3–4	4–5			
Admin.	24,552	3,348	2,790	488	988	895	736	621	747	111		3,107	1,479	4,586
Main	58,784	8,016	6,680	3102	4360	3204	3046	3186	3371	1441	601	13,712	8,599	22,311
Science	32,912	4,488	3,740	650	702	268	667	619	709	355	25	2,287	1,708	3,995
Pease Aud.	4,268	582	485	540	124	264	189	238	226	76	150	1,117	690	1,807
Gymnasium	19,316	2,634	2,195	899	706	789	396	639	543	702	1016	2,790	2,900	5,690
Total Normal Plant.	139,832	19,068	15,890	5679	6880	5420	5034	5303	5596	2685	1792	23,013	15,376	38,389

B—IN PER CENTS

Building	Total Stand. Cap. for one week	Stand. Cap. for one a. m. hr. thru 6 days	Stand. Cap. for one p. m. hr. thru 5 days	Per cent use by periods								Per cent use a. m.	Per cent use p. m.	Total per cent use
				8–9	9–10	10–11	11–12	1–2	2–3	3–4	4–5			
Admin.	24,552	3,348	2,790	14.6	29.5	26.7	22.0	22.3	26.8	4.0		23.2	13.3	18.7
Main	58,784	8,016	6,680	38.7	54.4	40.0	38.0	47.7	50.5	21.6	9.0	42.8	32.2	38.0
Science	32,912	4,488	3,740	14.5	15.6	6.0	14.9	16.6	19.0	9.5	.7	12.7	9.5	12.1
Pease Aud	4,268	582	485	92.8	21.3	45.4	32.5	49.1	46.6	15.7	30.9	48.0	35.6	42.3
Gymnasium	19,316	2,634	2,195	34.1	26.8	30.0	15.0	29.1	24.7	32.0	46.3	26.5	33.0	29.5
Total Normal Plant..	139,832	19,068	15,890	29.8	36.1	28.4	26.4	33.4	35.2	16.9	11.3	30.2	24.2	27.4

Teacher Load

An analysis of the weekly teacher load expressed in student hours in comparison with last year shows that the teaching load has been greatly increased, well above the minimum load set up as a reasonable expectancy.[1] This comparison appears in the following table:

TABLE 4—STUDENT HOURS PER TEACHER PER WEEK

	1921	1922	Reasonable expectancy
25 Percentile	146	281	200
Median	238	376	340
75 Percentile	306	526	460

1—Part II, Chapter XI

Western State Normal School

Use of College Plant

Western State membership in November, 1922, was 1,704 or 410, 31.6%, more than in 1921. This school presents the most remarkable growth of any of the state teacher training institutions.

The room use has increased to 43.7%. Lack of balance in the present plant will prevent much better room use than is shown in Table 5.

TABLE 5—ROOM USE BY PERIODS BY BUILDINGS (WESTERN STATE)

Building	Total periods	Periods used	Per cent use 1922	Per cent use 1921
Administration	880	409	46.5	46.6
Science	1,056	482	45.6	42.1
Manual Arts	352	100	28.4	22.7
Gymnasium	44	27	61.4	56.8
Total Normal Plant	2,332	1,018	43.7	41.1

The use of standard capacity on the basis of attendance has increased from 34.1% to 47.1% or 13%. These data are shown in Table 6.

TABLE 6—BUILDING USE ON BASIS OF ATTENDANCE (WESTERN STATE)

Building	Standard capacity for 1 week	Attendance for 1 week	Per cent use of standard capacity 1922	Per cent use 1921
Administration	29,612	15,943	53.8	43.0
Science	32,296	15,362	47.6	33.1
Manual Arts	5,104	1,918	37.6	21.3
Gymnasium	9,856	2,952	30.0	17.3
Total Normal Plant	76,868	37,850	47.1	34.1

With the exception of four periods the use of the plant by hourly periods is more than 50%, set up as a reasonable expectancy. The distribution of use throughout the day is also better than in 1921. These data follow in Table 7.

TABLE 7—USE OF BUILDINGS BY PERIODS (WESTERN STATE)

IN NUMBERS

Building	Total Stand. Cap. for one week	Stand. Cap. for one a. m. hr. thru 6 days	Stand. Cap. for one p. m. hr. thru 5 days	Numbers by Periods								Total a. m. attend-ance	Total p. m. attend-ance	Total attend-ance
				8–9	9–10	10–11	11–12	1–2	2–3	3–4	4–5			
Admin.	29,612	4,038	3,365	2100	2749	2507	1543	1434	2359	1785	1466	8,899	7,044	15,943
Science	32,296	4,404	3,670	2633	2000	2217	2226	1465	2058	1893	870	9,076	6,286	15,362
Manual Arts	5,104	966	580	260	260			444	444	255	255	520	1,398	1,918
Gymnasium	9,856	1,344	1,120	645	357	790	492	[1]	274	394		2,284	668	2,952
Total	76,868	10,482	8,735	5638	5366	5514	4261	3343	5135	4327	2591	20,779	15,396	36,175

B—IN PER CENTS

Building	Total Stand. Cap. for one week	Stand. Cap. for one a. m. hr. thru 6 days	Stand. Cap for one p. m. hr. thru 5 days	Per cent use by periods								Per cent use a. m.	Per cent use p. m.	Total per cent use
				8–9	9–10	10–11	11–12	1–2	2–3	3–4	4–5			
Admin.	29,612	4,038	3,365	52.0	68.1	62.1	38.2	42.6	70.1	53.1	43.6	55.1	52.3	53.8
Science	32,296	4,404	3,670	59.8	45.4	50.3	50.6	39.9	56.1	51.6	23.7	51.5	42.8	47.6
Manual Arts	5,104	966	580	26.9	26.9			76.6	76.6	44.0	44.0	13.5	60.3	37.6
Gymnasium	9,856	1,344	1,120	48.0	26.6	58.8	36.6		24.5	35.2		42.5	14.9	30.0
Total	76,868	10,482	8,735	53.8	51.2	52.6	40.7	38.3	58.8	49.5	29.7	49.6	44.1	47.1

These figures do not include 916 in Old Mill and 1,675 assembly in gymnasium Tuesday at 9:00 A. M.

Teacher Load

An analysis of the weekly teacher load expressed in student hours in comparison with last year shows that the teaching load has been increased and is now slightly higher than the minimum load set up as a reasonable expectancy.[1] This comparison appears in the following table:

TABLE 8—STUDENT HOURS PER TEACHER PER WEEK

	1921	1922	Reasonable expectancy
25 Percentile	92	223	200
Median	176	358	340
75 Percentile	276	501	460

Central Normal School

Use of College Plant

Central Normal increased from 634 to 815 students, or 181, 28.5% more than in 1921. This includes rural certificate students in both cases. The room use by periods increased from 34.8% to 43.3% or 8.5% more than in 1921. These data are shown in Table 9.

[1]—Part II, Chapter XI

TABLE 9—ROOM USE BY PERIODS (CENTRAL MICHIGAN)

Building	Total periods	Periods used	Per cent use 1922	Per cent use 1921
Main	836	454	54.3	41.3
Science	792	254	32.1	28.3
Gymnasium	176	74	42.1	30.7
Total Normal Plant...	1,804	782	43.3	34.8

The use of the college plant on the basis of attendance increased from 21.2% to 30.4%. Table 10 contains this information.

TABLE 10—USE OF BUILDINGS ON THE BASIS OF ATTENDANCE (CENTRAL MICHIGAN)

Building	Standard capacity for 1 week	Attendance for 1 week[1]	Per cent use 1922	Per cent use 1921
Main	33,088	13,076	39.5	27.4
Science	26,796	6,349	23.7	17.7
Gymnasium	15,224	3,429	22.5	13.8
Total Normal Plant...	75,108	22,854	30.4	21.2

The use of the plant by periods is above 25% in all except two periods. Under these conditions there is still plenty of room to care for probable expansion. These data appear in Table 11.

TABLE 11—USE OF BUILDINGS BY PERIODS (CENTRAL MICHIGAN)

IN NUMBERS

Building	Total Stand. Cap. for one week	Stand. Cap. for one a. m. hr. thru 6 days	Stand. Cap. for one p. m. hr. thru 5 days	Numbers by Periods								Total a. m. attendance	Total p. m. attendance	Total attendance
				8–9	9–10	10–11	11–12	1–2	2–3	3–4	4–5			
Main	33,088	4,512	3,760	1475	2471	1618	1252	1855	1600	1837	968	6,816	6,260	13,076
Science	26,796	3,654	3,045	980	725	1271	755	1073	1157	298	90	3,731	2,618	6,349
Gymnasium	15,224	2,076	1,730	505	692	712	219	246	521	277	257	2,128	1,301	3,429
Total	75,108	10,242	8,535	2960	3888	3601	2226	3174	3278	2412	1315	12,675	10,179	22,854

B—IN PER CENTS

Building	Total Stand. Cap. for one week	Stand. Cap. for one a. m. hr. thru 6 days	Stand. Cap. for one p. m. hr. thru 5 days	Per cent use by periods								Per cent use a. m.	Per cent use p. m.	Total per cent use
				8–9	9–10	10–11	11–12	1–2	2–3	3–4	4–5			
Main	33,088	4,512	3,760	32.7	54.8	35.9	27.8	49.3	42.6	48.9	25.7	37.8	41.6	39.5
Science	26,796	3,654	3,045	26.8	19.8	34.8	20.7	35.3	38.0	9.8	3.0	25.5	21.5	23.7
Gymnasium	15,224	2,076	1,730	24.3	33.3	34.3	10.5	14.2	30.1	16.0	14.9	25.6	18.8	22.5
Total	75,108	10,242	8,535	28.9	38.0	35.2	21.7	37.2	38.4	28.3	15.4	30.9	29.8	30.4

[1]—These figures do not include assembly of 800 held in Main building Tuesday at 11:00

Teacher Load

An analysis of the weekly teacher load expressed in student hours in comparison with last year shows that the teaching load has been increased and is now slightly higher than the minimum set up as a reasonable expectancy.[1] This comparison is made in the following table:

TABLE 12—STUDENT HOURS PER TEACHER PER WEEK

	1921	1922	Reasonable expectancy
25 Percentile	112	193	200
Median	164	343	340
75 Percentile	304	525	460

SUMMARY

A careful study of college plant use in 1922 leads to the conclusion that the growth conforms generally to the estimates made last year and that the building program recommended in Part I is ample to meet increasing needs if carried out in accordance with the recommendations.

Further study of teaching load shows that this is now above the reasonable expectancy set up as the minimum standard and that provision should be made in the next biennial budgets for reasonable extension of the faculties in proportion to the needs arising as results of growth.

[1]—Part II, Chapter XI

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